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STATE OF SOUTH CAROLINA

REPORT

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OF THE

STATE DOCUMENTS

STATE COMMISSION OF FORESTRY

FOR THE YEAR

JULY 1, 1981 TO JUNE 30, 1982



LEONARD A. KILIAN, JR., State Forester

COLUMBIA, S. C.

PRINTED UNDER THE DIRECTION OF THE
STATE BUDGET AND CONTROL BOARD

STATE OF SOUTH CAROLINA

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*To Honorable Richard W. Riley, Governor and to the
General Assembly of South Carolina:*

Sirs:

Pursuant to Section 3 of Act of General Assembly creating the State Commission of Forestry, approved April 26, 1927, which provides that the Commission shall "inquire into and make annual report upon forest conditions in South Carolina, with reference to the preservation of forests, the effect of the distribution of forests upon the general welfare of the State, and other matters pertaining to the subject of Forestry and tree growth including recommendations to the public generally as to reforestation," I have the honor to submit the report of the Commission for the period of July 1, 1981 to June 30, 1982.

Respectfully submitted

STATE COMMISSION OF FORESTRY

C. H. Niederhof

STATE COMMISSION OF FORESTRY

C. H. Niederhof, Chairman

S. C. STATE COMMISSION OF FORESTRY

MEMBERS OF THE COMMISSION

C. H. Niederhof, *Chairman*, Charleston

Eugene H. Kneece, Jr., *Vice Chairman*, Aiken

A. Brandon Taylor, Jr., Spartanburg

Joseph C. Woodard, Sr., Eastover

Howard P. Rhodes, Estill

M. Calhoun Colvin, Holly Hill

Boris Hurlbutt, Walterboro

Joe Brice Williamson, Kingstree

Dr. Bill L. Atchley, *President, Clemson University*, Clemson

ADMINISTRATION

Leonard A. Kilian, Jr., State Forester and Secretary to the Commission

Claude F. Barden, Executive Assistant to State Forester

Walter T. Ahearn, Staff Director

John M. Shirer, Division Director, Forest Engineering and Logistics

Chauncey R. Nichols, Division Director, Field Operations

Robert J. Gould, Division Director, Administration

FOREWORD

Interest in the reforestation and protection of forest land in South Carolina began as early as 1787 when a law was passed which provided for the punishment of any person who wilfully, maliciously or negligently caused fire to do damage to the property of another. Between 1787 and 1912 some eleven bills were passed concerned with forestry, largely dealing with the protection of the forest from fire. Increasing activities in lumber and naval stores directed attention of thoughtful individuals to the fast disappearing timber supply. The growing interest in the future of South Carolina's forest resources culminated in the Act of the General Assembly of South Carolina (1976 Code of Laws, Volume 16, Title 48, Chapter 23), April 26, 1927, creating the State Commission of Forestry. The first appropriation of \$4,000 was made by the General Assembly in 1928.

The first organized forest fire control efforts were initiated in 1928 when groups of landowners in cooperation with the S. C. State Commission of Forestry formed five forest fire protection organizations for the control of woods fires on some 195,000 acres of woodland. These Forest Protective Associations, as they were known, grew in number and size until 1944 when 24 counties had organized fire protection organizations.

The year 1945 was a banner year for forest fire protection, for it was then that the General Assembly passed the South Carolina Forest Fire Protection Act (1976 Code of Laws, Volume 16, Title 48, Chapter 33) which extended organized forest fire protection to every county in South Carolina — the first of any of the southeastern states to take such a step.

Paralleling the growth of forest fire protection, reforestation of cutover and idle land also came in for ever increasing emphasis. Just two years after the Act creating the State Commission of Forestry, the General Assembly authorized the S. C. State Commission of Forestry to establish a nursery and grow forest tree seedlings. This was done on a 5½-acre tract near Camden where 731,400 seedlings were raised the first year. This program has grown to four state nurseries and one industry-operated nursery which now produce some 50 million forest tree seedlings annually, both pine and hardwood, for planting throughout South Carolina. In 1961 attention was given to improving the quality of seedlings available for planting in South Carolina by establishing seed orchards of superior trees through a cooperative Tree Improvement Program involving both state and industrial interests.

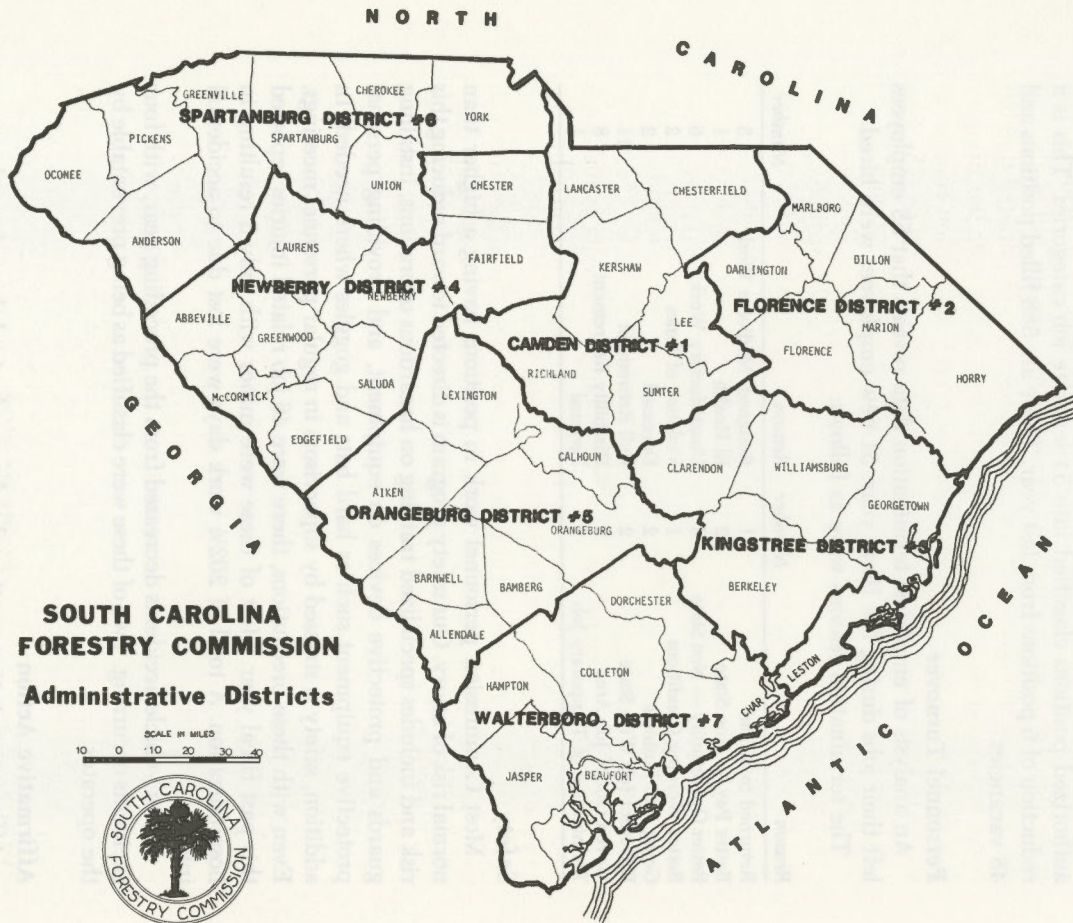
Direct assistance to farmers and other landowners in managing their forest land began in the winter of 1930-31 as a demonstration in Fairfield County of proper thinning, measurement of board foot content of standing timber and use of equipment in suppression of forest fires. Under a cooperative agreement with the county agricultural agents, such demonstrations were held just two years later in 33 counties. Such direct assistance has grown through the years and has expanded to include

individual forest land examinations, 2,768 of which were made by Commission foresters this fiscal year. In addition to these examinations, Forestry Commission foresters marked timber for sale for 294 landowners.

From the very beginning of activity by the State Commission of Forestry, education has been a prime function in the fields of fire protection, reforestation and forest management. In the fall of 1928, at the South Carolina State Fair, an exhibit program was initiated that has been carried on continuously since that time. Each year the Forestry Commission places exhibits promoting a forest conservation concept in the State Fair and in every county fair that provides the space. The year 1929 saw expansion of the Forestry Commission's educational efforts when, in cooperation with the American Forestry Association, one, then later three, motion picture trucks showed movies and distributed literature to schools, clubs and other groups. In 1930 it was reported that 320 shows and lectures reached a total of 54,000 men, women and children. An additional boost was given the school program when in 1931, in cooperation with the office of the Supervisor of Vocational Agricultural Education, forestry was added as a study in Vocational Agriculture classes throughout the state.

At present, heavy emphasis continues through all media available — schools, clubs, civic groups, radio and television and the press in telling the forest conservation story and the needs of the future.

It is expected that the nation's demand for softwood from the South will increase from the present 35% to more than 50% by the year 2020. Further, pressure on the available supply of hardwood will increase proportionately. The outlook presents both a challenge and a distinct opportunity to increase appreciably the contribution of the wood-using industry to the economic health of South Carolina. Multiplied many times also will be demands for other uses of the forest — recreation, wildlife management, water conservation and a myriad of other needs in the area of aesthetics. The South Carolina State Commission of Forestry has been concerned through the years with all aspects of forest conservation and will continue to promote by every means available the wise use of South Carolina's forest resources to meet the demands of the future.



ADMINISTRATION

PERSONNEL

Workforce

The South Carolina State Commission of Forestry has a total of 636 authorized positions classified into 54 separate job categories. This is a reduction of 6 positions from last year. There are 588 filled positions and 48 vacancies.

Personnel Turnover

An analysis of employee termination data reveals that 58 employees left their jobs during the fiscal year. 51 new employees were hired.

The termination reasons were as follows:

<i>Reason</i>	<i>Number</i>	<i>Reason</i>	<i>Number</i>
Returned to School	1	Resigned, Mediocre Work	5
Better Pay — Non State	2	Ill Health	1
Better Opportunity — Non State	3	Unsatisfactory Work	6
Better Working Conditions	1	Violation of Rules	2
Going Into Business	2	Deceased	2
Different Job With State	2	Full Retirement	11
Moved Out of Job Area	9	Disability Retirement	8
Termination of Temporary Job	2	Personal	1

Safety

Most Commission personnel work in positions having a higher than normal risk of injury. Our safety program is directed toward reducing this risk and includes specialized training on hazardous operations, installing guards and protective devices on equipment, and providing personal protective equipment such as hard hats and goggles where needed. In addition, safety is stressed by supervisors in regular personnel meetings. Even with these precautions, there were 46 job related injuries reported this past fiscal year. Most of these were minor with only 3 resulting in hospitalization. A total of 202½ work days were lost due to accidental injuries.

Motor vehicle accidents decreased from the preceding year, with four accidents occurring. Two of these were classified as being preventable by the operator.

Affirmative Action

Affirmative Action continued to be emphasized throughout the year. Our Affirmative Action Plan was revised and submitted to the State Human Affairs Commission for approval.

There were 2 charges of discrimination filed against the Forestry Commission during the past fiscal year. One case alleged sex discrimination and the other age discrimination. After an investigation by the State Human Affairs Commission, both charges were withdrawn.

Employee Relations

Supervisory personnel participated in employee relations training conducted by the Personnel Section. Topics covered included performance appraisal, discipline and alcoholism. The training utilized video tapes developed in cooperation with the Information and Education and Training Sections.

Health

A high blood pressure screening and awareness program was conducted for Central Office personnel in cooperation with the American Heart Association. This was a pilot program which proved successful and plans are to expand this into other areas of the Forestry Commission.

FINANCIAL

Fiscal year 1981-82 completed the 2nd full year utilizing a relatively new double entry accounting and reporting system. Implementation of this new system was accomplished through the use of teleprocessing in cooperation with the University of South Carolina. Minor modifications started in this second year of use have improved this system's recording and reporting capability and overall agency utilization.

The statewide distribution of supplies from the Central Warehouse and seven district repair shops are also incorporated into this system, along with fixed assets, which are maintained in this system with the capability of depreciation.

The system allows continuous monitoring of all funds, and periodic management oriented financial and statistical reports through its data analyzer capability.

FINANCIAL STATEMENT
S. C. STATE COMMISSION OF FORESTRY
July 1, 1981 - June 30, 1982

RECEIPTS

Operating Revenue from 1980-81	\$ 73,586.27
Sand Hills Forest — Federal from 1980-81	586,293.49
Young Adult Conservation Corps from 1980-81	5,239.64
Federal Funds	962,775.00
Sand Hills Forest — Federal	347,427.68
Young Adult Conservation Corps	110,133.00
State Appropriation	11,094,354.00
Cap. Imp's Bond — Proceeds	2,295.00
Dual Employment	768.59
State Forest — Manchester	42,889.83
General Revenue — Equipment	15,690.72
General Revenue — Firebreak Plowing	41,586.00
General Revenue — Prescribed Burning	24,826.00
General Revenue — State Forest Manchester	128,669.50
General Revenue — Hunting & Fishing Permits — Manchester ...	6,116.90
General Revenue — Nurseries	561,250.13
General Revenue — Marking Timber	23,240.60
General Revenue — Miscellaneous	3,238.29
Total Receipts — Forestry	\$14,030,380.64
Less Receipts to General Revenue Account	-719,274.82
Less Appropriation Lapsed to General Fund	-114,372.00
Less Budget Reduction by Budget & Control Board	-216,036.00
Total Receipts Available for Expenditure	\$12,980,697.82
Less Expenditures	-12,547,791.49
Balance — Forestry Commission	\$ 432,906.33

FISCAL YEAR 1981-82

Funds Available:

Forestry Commission —	
Operating	\$11,934,548.65
Cap. Imp's. — Bond Proceeds ...	2,295.00
Sand Hills Forest — Federal	933,721.17
Federal YACC	110,133.00
Total	\$12,980,697.82

Expenditures:

Forestry Commission —	
Operating	\$11,877,514.68
Cap. Imp's. — Bond Proceeds ...	2,295.00
Sand Hills Forest — Federal	557,848.81
Young Adult Conservation Corps.	110,133.00
Total	\$12,547,791.49
Balance Carried Forward to 1982-83	\$432,906.33

Breakdown of Balance:

Federal Funds	\$ 48,931.90
Operative Revenue	7,871.11
Sand Hills Forest — Federal	375,872.36
Savings Bonds	230.96
Total	<u>\$432,906.33</u>

DIVISION OF ENGINEERING & LOGISTICS

The Division of Engineering and Logistics is responsible for the following basic responsibilities and functions:

Provide for all engineering and technical aspects of the Forestry Commission's two-way radio and telephone communications system.

Provide for central purchasing services to all divisions and field units. These services include preparation of specifications, processing of requisitions, acquisition and distribution of all supplies and equipment.

Provide warehousing services for supplies, material and equipment used in the Forestry Commission's program.

Provide for inventories and property accountability.

Administer all of the Commission's functions relating to land and real property, and provide for technical assistance in construction and maintenance of structures.

Provide for the operation of the central repair shop and the development and modification and processing of all mechanized equipment.

Provide staff service to all units of the Forestry Commission in matters relating to communications, purchasing, transportation of supplies and equipment, maintenance of equipment and permanent improvements and preparation of cost estimates.

Radio

The Forestry Commission's two-way radio communication system continued to perform satisfactorily throughout the fiscal year even though much of the equipment has been in service for a long number of years. The radio engineer is headquartered at the Central Radio Communications Maintenance and Repair Shop in Columbia. Six radio technicians assigned to the district headquarters handled the installation and maintenance activities of the Commission's radio communication program at the district and county level.

Careful selection of radio equipment in past years has resulted in an efficient and dependable radio system. Perhaps the most notable aspect of this system is the tractor mounted radio set. These sets contribute greatly to the effectiveness and safety of the warden on the fire line.

Although these sets have been in use between twelve and twenty years, they still provide dependable communications.

Inventory of Radio Improvements and Equipment:

8 Remote Control Base Units, 330 watts

1 Remote Control Base Unit, 375 watts

- 1 Mobile Relay Base Unit, 120 watts
- 27 Local Control Base Units (Tube Type)
- 121 Local Control Base Units (Solid State)
- 3 Mobile Units (Transistorized), 80 watts (For mobile relay)
- 4 Mobile Units (Tube Type)
- 108 Mobile Units (Transistorized), 40 to 110 watts
- 478 Mobile Units (Transistorized), 15 to 30 watts
- 96 Portable Units, 1½, 3 and 5 watts
- 217 Auxiliary receivers
- 8 Radio Towers

Equipment Maintenance Shop

All regular and specialized equipment is modified and processed for field use at the Commission's Central Repair Shop in Columbia.

Central shop personnel made numerous repairs to Forestry Commission vehicles and equipment and manufactured many special fire control and forest management items. Some of the work conducted at the Central Shop included modification of medium suppression units transport bodies; repaired medium tractors for field use; rebuilt fire plows; modified safety canopies; constructed lock rim safety cages for all district shops, nurseries, and state forests; redesigned and improved fire plows; conducted major equipment overhauls of field assigned units; modified and repaired specialized equipment for use in aerial tanker program; rebuilt wrecked equipment; constructed special items for the nursery program; provided maintenance assistance to the district repair shops; performed major equipment overhauls and repairs on field equipment; built tractor bumpers, truck ramps, draw bars, plow spindles and numerous other items associated with the equipment program. The Central Repair Shop provides a complete line of equipment construction and maintenance to all of the field units including state forests and nurseries.

No mechanized fire control equipment was purchased during 1981-82. Following is a summary of fire control transports/tractor replacement purchases for the last ten years:

<i>Year</i>	<i>Number</i>
1973-74	27 Units*
1974-75	28 Units
1975-76	30 Units
1976-77	25 Units
1977-78	12 Units
1978-79	14 Units
1979-80	11 Units
1980-81	1 Unit
1981-82	0 Units
1982-83	0 Units

* Unit — 1 Truck and 1 Tractor

Inventory of Basic Fire Tools and Equipment

June 30, 1982

- 1,256 Back Pack Pumps
- 3,921 Fire Rakes
- 1,414 Fire Swatters
- 662 Backfire Torches
- 6 Heavy Suppression Tractor-Plow units w/Transports
- 223 Medium Tractor-Plow Units w/Transports
- 4 Heavy Lowboy Trailers
- 46 Ranger Pickup Trucks
- 1 ½-ton Jeep
- 11 Mechanics and Radio Technicians Station Wagons
- 1 2-ton Jeep
- 14 ½-ton Pickup Trucks (Mechanics)
- 11 Ground Tankers
- 2 Forest Fire Simulators
- 3 Fire Headquarters Trucks

Ground Tankers

The number of ground tankers assigned to counties totals 46. Tankers range in capacity from 100 gallons to 260 gallons and are located throughout the state.

Construction and Maintenance

The Engineering and Logistics Division planned, assisted and/or constructed all of the Commission's major capital improvement projects which included: renovation and construction of forest insect and disease lab at central shop, and installation of irrigation systems at Coastal, Taylor and Piedmont Forest Tree Nurseries. Completed majority of renovation and new construction at the new Kingstree District Office and Repair Shop Complex.

FIELD OPERATIONS

FOREST MANAGEMENT

The major emphasis of the Commission's Forest Management Program is assisting small private owners in the management of their woodland properties. To date more than half the total woodland area of the state has been examined by foresters and recommendations made to increase their contributions. More than 40,648 landowners have been assisted with forest management plans.

The 1978 Forest Survey shows that 65 percent of the total land in South Carolina is classified as woodland. This is an increase of 92,000 acres since 1968. The ownership pattern changed slightly as one percent of the land in farmer and miscellaneous private shifted to forest industry. Farmer ownership continued to shift to miscellaneous private. Farmers dropped from 54% of the small industrial private ownership in 1968 to 49% in 1978. Farmers and miscellaneous private owners hold more than 73% of the forestland; forest industry, approximately 18%, and public ownership, 9%.

Foresters of the S. C. Forestry Commission are available to give forest management assistance to any landowner in the state upon request. This assistance consists of an examination of the woodland area, after which the forester prepares and furnishes to the owner a written plan for managing his forest property. This includes recommendations on site preparation, tree planting, protecting the woodland from wildfire, insects and diseases, improving stands of trees, intermediate thinnings, and harvest cuttings as needed. Consideration is given to the improvement of soil, water, wildlife, recreation, aesthetics, and other environmental and ecological aspects along with timber production.

During 1981-82 the Commission had a total of 28 man-years devoted to assisting small private landowners with forest management on their lands, including the small watershed activities. These men prepared 2,578 forest management plans. Timber on 239 tracts covering 3,700 acres was marked preparing 6,964,061 board feet of sawtimber and 19,162 cords of pulpwood for the market.

Where the forest management needs of the owner indicate it, Commission foresters encourage the landowner to employ a private consulting forester. Commission foresters also work closely with industry foresters who give direct assistance to landowners.

Average sawtimber stumpage prices showed an increase from last year, but demand was off. Pulpwood prices also showed an increase while demand declined slightly.

Four state tree nurseries were in operation during the 1981-82 year. The number of acres planted to trees in South Carolina increased slightly over the previous year. The nurseries are expected to increase tree production to provide for the expanded needs of forest industry and incentives programs supported by state and federal funds.

The greatest problem facing South Carolina landowners is reforestation of some 2 million acres of idle and unproductive land. In addition, we are harvest cutting over 200,000 acres annually and even with the federal incentives program, we have a shortfall of 39,000 acres annually. The Forestry Commission will concentrate its efforts in this direction. The Forest Management Program will be aimed at assisting the small non-industrial woodland owner.

A forestry incentives program providing landowners cost-sharing assistance for reforesting cutover woodland or other forest improvement practices was first funded by Congress in 1974. This program was continued this year and is expected to stimulate forest planting on non-industry private landowner woodlands at about the present rate. More details on this effort appear under the section on the Forestry Incentives Program. Also a state incentives program was established by the General Assembly during the year and will be funded in fiscal 1982-83.

A forest service program was also approved by the General Assembly to assist landowners in the afforestation and reforestation and maximum production of this woodland. Services performed include (1) firebreak plowing, (2) prescribed burning, (3) prescribed burning standby and, (4) rental of site preparation and tree planting equipment.

Woodland Management Assistance

The 28 man-years of forest management time of foresters were directed toward assisting private landowners with their woodland management problems. Clemson University Extension foresters assisted in this program, primarily with promotional demonstration effort.

Any landowner in the state can receive assistance. A forester, with the landowner or his agent, will look over the woodland, give on-the-ground advice and prepare a report covering recommendations. This includes any cutting, fire protection, insect and disease control, timber stand improvement, reforestation, and wildlife and recreational measures that are needed. No charge is made for this woodland examination.

When cutting of timber is recommended on small tracts, a forester of the S. C. Forestry Commission may, at the request of the landowner, mark the timber to be cut, provide the landowner with an estimate of the volume marked for cutting, and furnish a list of prospective buyers, a suggested form for advertisement, and a sample timber sale agreement. The charge for this service during the fiscal year was \$2.00 per thousand board feet for sawtimber and 60 cents per cord for pulpwood.

Landowners are referred to consulting foresters when the volume of timber to be cut or the management needs of the ownership indicate the need of a consultant.

Prescribed burning plans are prepared for owners who want to burn in pine types. Prescribed burning is a technical measure which involves the application of fire to woodlands under conditions of proper weather, soil

moisture, season, time of day, and forest type. Fire as a tool can be beneficial in the control of weed trees, seedbed preparation, control of "brown spot" disease of longleaf pine and reducing hazardous fuels. Recommendations for the use of prescribed fire are made only after very careful analysis with the landowner of the forest conditions to be sure that benefits will be greater than probable damages. Prescribed burning services were increased during the year to include a full service by Commission personnel.

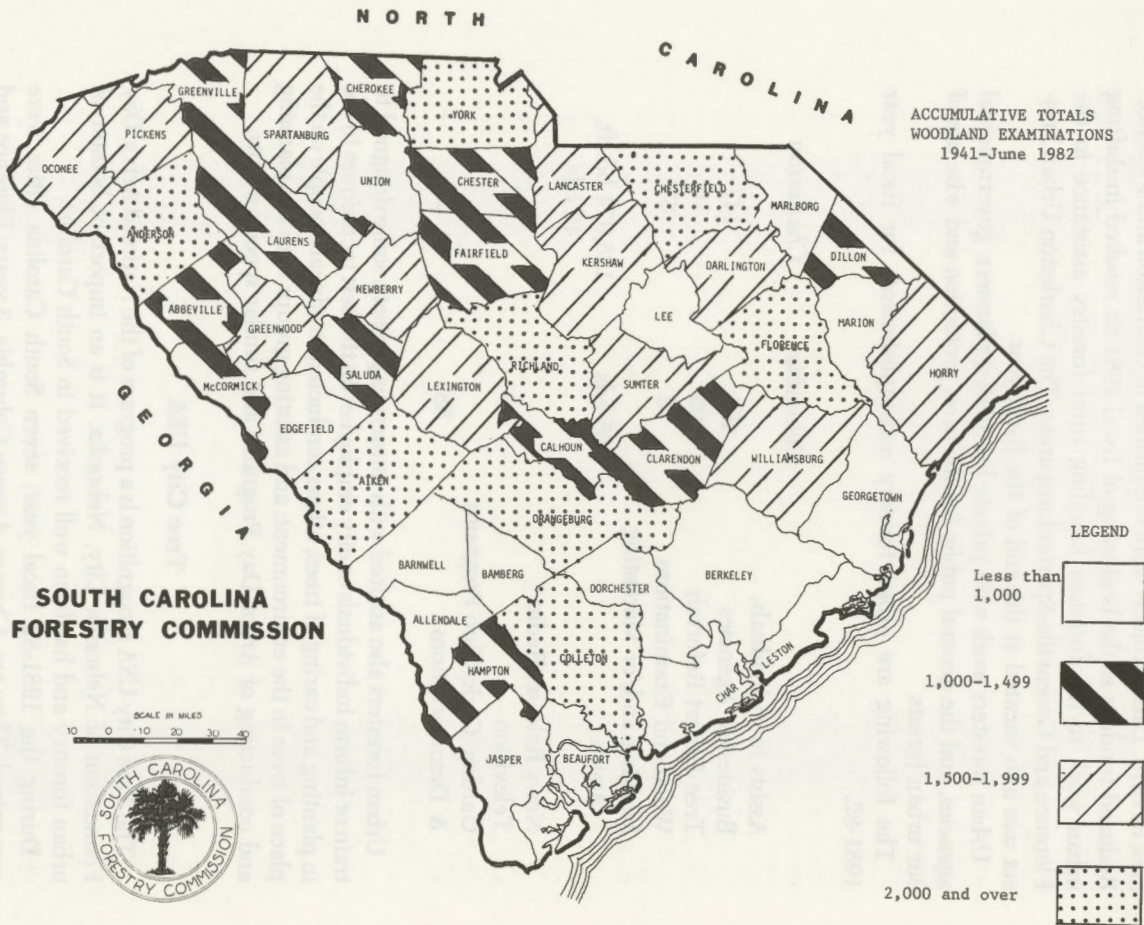
During the year Commission foresters made 2,578 examinations on 172,605 acres of forestland. They selectively marked 6,964,061 board feet of sawtimber and 19,162 cords of pulpwood for 239 landowners of 3,700 acres of forest land.

In addition to woodland examinations and marking services, a large number of requests for general information and advice were answered by the Columbia, district, and project office technical forestry staffs. These requests included information on scrub hardwood control, timber stand improvement work, industry location data, markets, etc.

Commission foresters were able to service most requests for assistance with only one to four weeks delay. Additional personnel would be needed in some areas to promote and respond to additional requests.

WOODLAND MANAGEMENT ASSISTANCE 1981-82

County	Woodland		Tracts Marked	Volume Marked		Total Woodland Examinations 1941-June, 1982
	Exams	Acres Examined		Bd. Ft.	Cds.	
Abbeville	54	2,527	11	26,772	1,219	1,254
Aiken	115	10,020	20	595,355	1,951	2,460
Allendale	16	1,244	2	—	770	568
Anderson	100	4,918	11	292,099	685	2,510
Bamberg	32	1,983	5	975,793	761	982
Barnwell	35	2,131	4	482,960	171	869
Beaufort	13	650	1	—	645	430
Berkeley	33	2,727	—	—	—	570
Calhoun	81	4,521	—	—	—	1,272
Charleston	37	2,201	2	128,974	42	541
Cherokee	47	3,389	14	9,300	878	1,068
Chester	32	2,837	—	—	—	1,057
Chesterfield	96	6,233	14	63,998	638	2,012
Clarendon	59	3,890	1	86,193	29	1,162
Colleton	85	5,154	—	—	—	2,205
Darlington	46	2,436	2	81,278	—	1,637
Dillon	42	1,461	2	6,163	29	1,272
Dorchester	23	1,683	—	—	—	696
Edgefield	35	3,658	6	375,654	539	718
Fairfield	64	5,889	—	—	—	1,233
Florence	101	4,890	8	53,848	230	2,333
Georgetown	31	3,435	1	192,310	—	462
Greenville	72	3,787	19	130,646	925	1,460
Greenwood	73	6,978	1	251,503	82	1,574
Hampton	62	3,700	3	471,730	239	1,359
Horry	45	4,086	1	3,400	20	1,959
Jasper	21	1,295	1	57,969	124	520
Kershaw	44	3,641	—	—	—	1,574
Lancaster	50	3,058	3	10,900	32	1,555
Laurens	44	2,689	5	—	498	1,496
Lee	16	1,124	1	57,682	76	966
Lexington	50	4,337	13	762,800	854	1,912
Marion	31	3,139	2	3,387	58	609
Marlboro	30	2,403	2	—	75	935
McCormick	37	2,748	2	—	70	1,150
Newberry	54	3,760	1	13,378	29	1,575
Oconee	61	3,411	26	387,958	1,018	1,754
Orangeburg	213	12,869	7	423,245	1,124	2,955
Pickens	60	2,880	21	31,042	3,120	1,600
Richland	119	5,859	12	592,100	346	2,193
Saluda	31	2,585	—	—	—	1,196
Spartanburg	62	4,568	4	—	612	1,518
Sumter	32	2,052	—	—	—	1,529
Union	38	4,974	1	—	280	694
Williamsburg	75	4,773	3	380,610	168	1,845
York	81	4,012	7	15,014	825	2,069
TOTALS	2,578	172,605	239	6,964,061	19,162	63,308



Urban Forestry

The first urban forestry project in South Carolina was established in Columbia in 1973 followed by a project in the Greenville-Spartanburg area in 1974. Later projects were established in Charleston and Florence. Reduced funding at the beginning of fiscal 1981-82 resulted in shifting urban work to the foresters handling rural forestry assistance in the Florence and Greenville-Spartanburg areas. The Charleston Urban Project was also vacated at the end of the fiscal year.

Urban foresters work with private businesses, planners, governmental agencies, and the general public for the care, protection and wise use of our urban forests.

The following are urban forestry accomplishments for fiscal year 1981-82.

	<i>Columbia</i>	<i>Charleston</i>
Assists to Individuals, Businesses, Agencies	466	147
Tree Expert Referrals	65	10
Woodland Examinations	2	37
Marking and/or Marketing Assists	25 cds.	128,974 bd. ft. 42 cds.
News Release/Radio Television	3	17
Garden/Civic Club Programs & Demonstrations	58	21

Urban foresters also assisted with numerous projects; some designed to train or inform individuals or city employees on the best techniques to use in planting and caring of trees; others conducted to educate people on the place of trees in the environment; and assisting groups with the planning and conducting of Arbor Day Programs and similar special events.

Tree City USA

The Tree City USA recognition is a program of the National Arbor Day Foundation of Nebraska City, Nebraska. It is an important booster of urban forestry and has been well received in South Carolina.

During the 1981-82 fiscal year, seven South Carolina cities were recognized. They are: Cheraw, 4 years; Columbia, 3 years; Florence and Marion, 2 years; and Charleston, Spartanburg and Summerville, 1 year. These cities received a walnut plaque, a Tree City flag and Tree City USA signs to place at the city limits. The standards for recognition are: a legally constituted municipal tree body (board, commission or beautification

committee); a tree ordinance; a comprehensive community forestry program supported by \$1 per capita or more; and an Arbor Day observance.

Forest Products Utilization and Marketing

*Sawtimber and Pulpwood Stumpage Prices for South Carolina Five-Year Period**

<i>Fiscal Year</i>	<i>Weighted Average Stumpage Price Per Thousand Board Feet Scribner Tree Scale</i>	<i>Weighted Average Stumpage Price Per Standard Cord</i>
1977-78	98.00	10.66
1978-79	127.13	11.46
1979-80	138.08	12.71
1980-81	117.76	13.58
1981-82	138.80	15.18

* Sales of timber marked by Commission foresters on private property

Average sawtimber stumpage prices increased somewhat over the previous year. The first quarter of the fiscal year prices were fairly good, but tapered off during the final three quarters. Demand was only fair to poor for the entire year. Several mills have temporarily closed due to market conditions and some mills have gone on reduced work schedules. Pulpwood prices remained fairly stable showing an increase.

During the year information was gathered from all primary wood-using industries for a commodity drain report for 1981. Emphasis was placed on the residue produced from each mill and its disposal.

The Commission continued its program of providing direct assistance to the wood-using industry. The objective of all of the utilization programs is to "stretch" the state's timber supply. These programs include logging and log yard analysis, sawmill improvement, roughmill improvement, improved drying and wood energy.

Time was also spent working with non-wood-using industries in their search for wood as an alternate energy source. The Commission now has the capability of making feasibility studies to see if an industry is a likely candidate to use wood.

In addition, training was given to Commission field foresters and industry personnel in forest utilization and marketing procedures and wood protection. Also the Commission handled over 187 miscellaneous utilization, marketing and energy requests during the fiscal year.

Consulting Forester Activity

Commission foresters continued to follow the practice of referring all appropriate cases to consulting and industry foresters wherever possible. Records show 525 cases were referred to consulting foresters and 343 cases were referred to industry foresters. Many additional requests for assistance were referred to consulting foresters and industry foresters where no field work was done by Commission personnel.

Incentives Programs

Forest Renewal Program — (FRP) — State

The South Carolina General Assembly passed unanimously the Forest Renewal Act which authorizes a state forest incentives program. The act will assess primary wood-using industries approximately 1.2 million dollars annually to support the program provided the General Assembly will appropriate \$300,000. The bill was signed by Governor Richard Riley on May 20, 1981.

The 1982 General Assembly appropriated \$100,000 to fund the Forest Renewal Program for F. Y. 1983. The State Forester has established the need to collect \$400,000 from the primary wood-using industries for 1983. This total of \$500,000 will be deposited to the Forest Renewal Fund for cost-share payments to landowners and administering the Forest Renewal Program.

The objective of the FRP is to assist non-industrial private woodland owners in reforesting their woodlands. This reforestation effort would provide raw material for the wood-using industry. It can play a major role in reducing the potential for a wood supply shortage projected by the 1978 Forest Survey to occur in South Carolina by 2007.

Forestry Incentives Program — (FIP) — Federal — 1981-82

The objective of the Forestry Incentives Program authorized by Congress in 1973 is to intensify timber production and related multiple use benefits for non-industrial private landowners owning 1,000 acres or less of forest land.

FIP funds allocated to South Carolina for the 1981-82 program year totaled \$919,000. Funds not utilized in the previous year's program were carried over into the current year because of the "no year-end funding" spelled out in the original act. Cost-share funds earned in 1981-82 totaled \$848,780.

1981-82 FIP Accomplishments

<i>Practice</i>	<i>No. Referrals</i>	<i>Acres Completed</i>	<i>Cost-Share Paid Out</i>
Bare Land Planting	65	1,800	\$ 46,922
Re-Planting	78	2,922	69,094
Site Preparation & Planting	291	9,471	724,754
Timber Stand Improvement	6	355	8,010
Totals	440	14,548	\$848,780

FIP Accomplishment Summary

Total funds allocated to South Carolina for FIP since 1973 amount to \$8,035,940. Cost-share funds earned through June 30, 1982 totaled \$7,172,729. The outstanding balance of \$863,211 is obligated and is being held by County Agricultural Stabilization and Conservation Service (ASCS) offices until 1981 and 1982 practices are completed. Table 1 summarizes FIP accomplishments by practice since 1973-74.

Agricultural Conservation Program (ACP)

Funds are available through the traditional Agricultural Conservation Program (ACP) for landowners who do not qualify for forest improvement cost-share funds under the present FIP guidelines, or for practices not included in FIP such as prescribed burning and firebreak construction.

1981-82 ACP Accomplishments

<i>Practice</i>	<i>No. Referrals</i>	<i>Acres Completed</i>	<i>Miles</i>	<i>Cost-Share Paid Out</i>
Bare Land Planting	67	1,344*	--	\$ 33,776
Site Preparation & Planting	90	1,418	--	116,044
Timber Stand Improvement	3	29	--	1,305
Prescribed Burning	22	1,867	--	3,730
Firebreak Construction	12	---	16	1,918
Totals	194	4,660	16	\$156,773

* Includes 798 acres of replanting.

FIP and ACP cost-share funds provide for payments up to 65 percent of the cost to carry out forest improvement practices. The landowner pays the remainder.

The FIP and ACP programs are administered by the Agricultural Stabilization and Conservation Service (ASCS). The South Carolina Forestry Commission is responsible for technical advice and assistance to landowners who apply for cost-share funds.

Table 1. Summary FIP Accomplishments, 1981-1982

Fiscal Year	Bare Land Planting			Site Preparation And Planting			Timber Stand Improvement			Prescribed Burning			Firebreak Construction			Allocation	Cost-Share Paid Out
	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Feet	Dollars		
1973-74				MONEY NOT RECEIVED UNTIL APRIL 1, 1974. NO ACCOMPLISHMENTS COMPLETED												\$ 468,000	\$ 0
1974-75	82	1,848	30,397	212	5,941	335,862	12	291	3,480	10	887	666	18	186,225	984	629,000	371,689
1975-76	81	1,668	37,056	254	6,378	376,447	3	80	960	24	1,670	1,252	23	254,000	712	939,000	416,000
1976-77	105	2,354	46,657	305	8,786	537,439	5	118	1,416	9	682	512	12	98,675	238	1,087,940	586,262
1977-78	147	3,782	74,315	443	14,797	888,335	6	179	3,912	2	320	240	1	5,000	10	1,116,000	966,812
1978-79	123	3,338	65,002	422	15,592	1,095,012	2	55	1,650	Not Covered Under Program						1,040,000	1,095,379
1979-80	130	3,089	61,932	732	16,195	1,136,644	9	129	5,068							1,025,000	1,203,651
1980-81	212	5,577	123,933	590	19,534	1,540,638	13	526	22,705							862,000	1,684,156
1981-82	143	4,722*	116,016	291	9,471	724,754	6	355	8,010							919,000	848,780
TOTALS	1,023	26,378	555,308	3,249	96,694	6,635,131	56	1,733	47,201	45	3,559	2,670	54	543,900	1,944	8,085,940	7,172,729

* Includes 2,922 acres of replanting.

*Table 2. Summary By Districts 1981-82
Forestry Incentives Program Accomplishments Completed*

<i>District</i>	<i>Bare Land Plant</i>			<i>Replanting</i>			<i>Site Prep. & Plant</i>			<i>TSI — Pine Release</i>		
	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>
Camden	2	95	2,340	10	524	13,871	37	1,119	86,981	2	240	5,220
Florence	3	108	2,856	8	344	8,213	22	785	68,222	—	—	—
Kingstree	3	35	891	1	10	270	17	825	76,748	—	—	—
Newberry	14	466	11,756	13	482	10,588	55	1,896	31,588	—	—	—
Orangeburg	29	706	18,229	25	878	20,602	83	2,641	230,866	—	—	—
Spartanburg	5	139	4,367	13	376	8,865	22	445	43,133	4	115	2,790
Walterboro	9	251	6,474	8	308	6,685	55	1,760	187,216	—	—	—
TOTALS	65	1,800	46,913	78	2,922	69,094	291	9,471	724,754	6	355	8,010

*Agriculture Conservation Program
Accomplishments Completed*

<i>District</i>	<i>Bare Land Plant*</i>			<i>Site Prep. & Plant</i>			<i>TSI-Pine Release</i>			<i>Prescribed Burn</i>			<i>Firebreaks</i>		
	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>	<i>No.</i>	<i>Acres</i>	<i>Dollars</i>	<i>No.</i>	<i>Miles</i>	<i>Dollars</i>
Camden	24	437	12,626	27	425	32,953	2	18	810	1	74	145	2	7	141
Florence	15	372	7,405	10	163	15,265	—	—	—	14	1,223	2,445	5	5	111
Kingstree	5	158	4,252	13	283	23,823	—	—	—	1	150	300	1	3	—
Newberry	5	116	2,365	6	167	11,588	—	—	—	1	36	72	1	1	22
Orangeburg	9	127	3,345	19	198	14,211	—	—	—	—	—	—	—	—	—
Spartanburg	5	20	405	11	116	12,535	—	—	—	—	—	—	—	—	—
Walterboro	4	114	3,378	4	66	5,669	1	11	495	5	384	768	3	3	1,644
TOTALS	67	1,344	33,766	90	1,418	116,044	3	29	1,305	22	1,867	3,730	12	19	1,918

* Includes 798 acres of replanting.

Forest Services

The 1981 General Assembly approved a program to make available forestry services consisting of scientific, technical and practical services to landowners of South Carolina and to assist them in the afforestation, reforestation and maximum production of their woodland.

Four main forest services programs were performed this year:

(1) firebreak plowing, (2) prescribed burning, (3) prescribed burning standby and (4) rental of site preparation and tree planting equipment.

The firebreak plowing and prescribed burning is performed only by Commission employees. The prescribed burning standby assistance provides a tractor unit and operator to standby while the landowner does the burning.

The landowner is charged a reasonable fee not greater than the cost of such forest services provided.

The rental equipment consists of tree planters, bedding plows, choppers and disc harrows. The equipment is rented to landowners at not greater than the cost to maintain and depreciate it.

Forest Services Accomplishments

District	Firebreak Plowing			Prescribed Burning			Prescribed Burning Standby			Equipment Rental		
	Tracts	Miles	Receipts	Tracts	Acres	Receipts	Tracts	Acres	Receipts	Tracts	Acres	Receipts
Camden	89	274	\$ 4,763	9	443	\$ 1,058	7	281	\$ 270	3	266	\$ 697
Florence	84	157	4,264	11	842	1,764	2	45	50	6	112	293
Kingstree	110	277	6,255	9	1,218	2,704	3	70	50	24	1,403	2,947
Newberry	52	133	3,866	30	1,896	4,738	1	180	—	16	619	3,199
Orangeburg	97	325	6,142	41	4,035	8,348	8	545	261	41	2,089	6,147
Spartanburg	24	117	2,747	3	111	310	7	952	554	8	223	415
Walterboro	184	399	10,154	26	2,118	5,031	8	1,300	495	10	504	1,506
TOTAL	642	1,682	\$38,191	129	10,668	\$23,953	36	3,373	\$1,680	108	5,216	\$15,204

Total Receipts Collected \$79,028

NOTE: Firebreaks plowed under the Agricultural Conservation Program are included in this table.

Nurseries

The S. C. Forestry Commission continued to operate four forest tree nurseries for the production and distribution of tree seedlings to South Carolina landowners. The nurseries distributed 55,728,328 seedlings for planting during the 1981-82 planting season. An additional 39,148,450 seedlings were either produced in state by industry nurseries or brought into the state by others. A grand total of 87,941,978 seedlings were planted in South Carolina. The balance of 6,934,800 were planted out of state.

The cost of seedlings f.o.b. varied from \$11.00 to \$30.00 per thousand depending on species. A charge of \$2.00 per thousand was made for delivering seedlings to county seats by nursery trucks.

The demand for Commission grown seedlings was strong throughout the planting season, a result of excellent planting weather last fall and winter. This allowed landowners to have their land prepared early. The nurseries were not able to meet all demands for improved coastal loblolly seedlings, redcedar and white pine. Seedling sales are expected to increase for the 1982-83 planting season.

Distribution of Seedlings

Of the 55,727,828 forest tree seedlings produced in state forest tree nurseries during the year, 6,934,800 seedlings were sold out of state.

Nursery production by species was as follows:

Improved Coastal Loblolly	12,232,150
Regular Coastal Loblolly	17,669,616
Improved Piedmont Loblolly	21,050,200
Regular Piedmont Loblolly	1,602,500
Slash Pine	147,500
Longleaf Pine	1,383,400
White Pine	530,700
Imp. Virginia Pine	597,500
Redcedar	260,387
Yellow-Poplar	3,000
Sweetgum	21,500
Black Walnut	42,000
Sycamore	14,325
Arizona Cypress	58,550
Miscellaneous	115,000
TOTAL	55,728,328

Tables in this report record the number of seedlings distributed by county and class ownership. Another table shows the total acreage planted and the number of acres in need of planting by counties.

The Cumulative Tree Planting Table records the number of seedlings distributed in South Carolina by years including those shipped for planting out of state.

S. C. STATE COMMISSION OF FORESTRY
TREE SEEDLING DISTRIBUTION
BY
LANDOWNER CLASSIFICATION
1981-82

A. *State Nursery Source Seedlings Planted in the State:*

<i>Land Ownership</i>	<i>Percent of Total</i>	<i>No. Trees Planted</i>
Farmers	12.4	6,051,250
Other Individuals	23.9	11,682,812
Associations & Clubs	1.0	481,900
Lumber Companies	2.4	1,176,500
Pulp & Paper Co.	41.4	20,246,966
Other Industry	11.3	5,532,100
Schools3	166,500
State Forests6	313,000
Other State Lands	1	441,500
City, Town, Gov.4	203,500
Federal Gov.	4	1,888,500
Watersheds1	2,500
Christmas Tree Growers	1.2	606,000
TOTALS	100.0	48,793,028

B. *Other Source Seedlings Planted in the State:*

Champion International	5,379,500
Continental Forest Industries	921,700
Federal Paper Board	338,000
Georgia-Pacific Corp.	170,500
Hiawasee Land Co.	5,870,000
Kimberly Clark	162,000
N. C. Forest Service	1,871,750
U. S. Forest Service	1,498,000
Union Camp	2,312,000
Westvaco	20,625,000
	39,148,450
TOTAL SEEDLINGS PLANTED IN THE STATE ..	87,941,478

C. *State Nursery Source Seedlings Shipped Out of State* 6,934,800

D. *Direct Seeded:*

Lightsey Brothers 260 acres

CUMULATIVE TREE PLANTING RECORD AND PLANTING NEEDS — ALL SOURCES

County	Seedlings Planted 1929-30	Seedlings Planted 1931-32	Grand Total Planted to date 1929-32	Acres Planted 1929 thru 6/30/32	Acres in need of planting 6/30/32
Abbeville	38,665,617	2,303,820	40,969,437	45,930	13,698
Aiken	168,793,243	3,715,960	172,509,203	180,764	176,603
Allendale	60,334,893	1,275,490	61,610,383	65,722	24,833
Anderson	37,046,292	827,050	37,873,342	39,851	44,610
Bamberg	32,371,509	1,001,000	33,372,509	35,397	25,841
Barnwell	86,183,706	2,403,050	88,586,756	93,492	67,362
Beaufort	18,046,045	913,400	18,959,445	21,193	64,009
Berkeley	74,716,691	3,544,550	78,261,241	89,347	46,837
Calhoun	20,882,570	878,500	21,761,070	23,827	32,715
Charleston	22,349,825	1,992,800	24,342,625	29,636	37,189
Cherokee	21,271,079	984,500	22,255,579	24,024	40,474
Chester	52,239,933	2,207,886	54,447,819	84,040	21,289
Chesterfield	103,750,165	2,017,000	105,767,165	112,828	144,165
Clarendon	37,235,965	1,736,600	38,972,465	43,654	7,788
Colleton	70,182,561	5,307,078	75,489,639	97,777	45,677
Darlington	24,710,445	641,500	25,351,945	28,566	45,078
Dillon	15,638,890	610,250	16,249,140	18,189	16,830
Dorchester	42,806,821	2,871,000	45,677,821	51,424	30,901
Edgefield	41,445,858	2,477,300	43,923,158	50,464	27,890
Fairfield	55,024,095	3,851,530	58,875,625	66,178	32,021
Florence	17,213,631	788,550	18,002,181	21,058	40,819
Georgetown	80,016,600	6,021,700	86,038,300	98,489	17,373
Greenville	22,309,654	424,150	22,733,804	24,075	50,141
Greenwood	52,601,351	2,605,970	55,207,321	53,801	13,009
Hampton	65,127,779	1,953,000	67,080,779	74,916	12,737
Horry	47,822,485	2,231,000	50,053,485	56,329	109,504
Jasper	57,924,230	2,987,500	60,911,730	68,105	37,743
Kershaw	141,869,217	3,412,016	145,281,233	155,482	106,821
Lancaster	46,190,172	1,652,068	47,842,240	53,566	16,490
Laurens	63,877,495	2,395,550	66,273,045	72,908	19,597
Lee	18,532,060	247,500	18,779,560	20,211	21,210
Lexington	46,252,822	910,500	47,163,322	49,658	110,986
Marion	21,099,955	827,100	21,927,055	24,531	42,533
Marlboro	37,938,558	1,225,100	39,163,658	43,551	35,239
McCormick	26,723,565	2,789,960	29,513,525	34,732	17,413
Newberry	48,037,772	2,170,000	50,207,772	57,620	30,782
Oconee	25,672,873	397,500	26,070,373	27,912	89,533
Orangeburg	74,903,742	2,846,000	77,749,742	86,045	71,912
Pickens	20,505,975	587,750	21,093,725	22,575	35,426
Richland	49,147,590	1,386,500	50,534,090	54,734	96,897
Saluda	23,416,851	1,342,100	24,758,951	29,202	14,246
Spartanburg	45,166,546	787,550	45,954,096	48,653	45,742
Sumter	52,042,667	783,500	52,826,167	55,943	39,656
Union	49,608,878	1,442,100	51,050,978	56,942	39,412
Williamsburg	48,357,342	3,362,850	51,720,192	61,176	46,702
York	43,257,996	803,700	44,061,696	47,099	42,012
TOTAL	2,249,313,909	87,941,478	2,337,255,387	2,601,616	2,149,745
Out-of-State	63,383,441	7,934,800	70,318,241	—	—
GRAND TOTAL	2,312,697,350	94,876,278	2,407,573,628	2,601,616	2,149,745

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS
1981-82**

<i>County</i>	<i>Improved Coastal Lob.</i>	<i>Regular Coastal Lob.</i>	<i>Improved Piedmont Lob.</i>	<i>Regular Piedmont Lob.</i>	<i>Slash</i>	<i>Longleaf</i>	<i>White Pine</i>
Abbeville			2,248.32	36		1	1.5
Aiken	118.5	1,160.46	2,098.5	30	1.5	164	10
Allendale	694.5	349.99	227			1	1
Anderson	6		678.5	45.8	2	2	17.5
Bamberg	545	178	264		5	.5	1
Barnwell	1,011.5	1,004.55	357		1	12	1
Beaufort	173	691.5			12.5	20.5	.2
Berkeley	910.3	2,554.75			35	29	1
Calhoun	512.5	227	120			2	3
Charleston	1,618.3	336			4	16	2
Cherokee		.5	751	210.5		2.5	10
Chester		120	1,750.666	327.72		.5	1.5
Chesterfield	2	320	1,236.5	129	1	307	5.5
Clarendon	836.1	883.5			2.5	3.5	2
Colleton	2,573.5	2,536.916			.5	.5	1.5
Darlington	116.5	444	41		1	10.5	6
Dillon	193.5	348.5	38.25		1.5	2	12
Dorchester	1,631.5	1,201.5			18.5	1.5	1
Edgefield		211.5	2,253.8	1.5		1.5	3.5
Fairfield		116.5	3,493.5	229.03			1
Florence	363.8	395.75			1.5	5	6
Georgetown	2,294.3	3,723.9				2.5	
Greenville			294.15	6.5		6	52
Greenwood		135	2,394.47	71			2
Hampton	1,094	471			27.5	53	.5
Horry	763	1,360.5			4.5	85	3.5
Jasper	420	732			8	1	1.5
Kershaw	.5	502	2,428.5	265.516	2	179.5	13.5
Lancaster		122	1,404.834	101.734		4.5	10
Laurens		343	1,804.3	187	3		13.5
Lee	67.5	31	126.5		1	3	3
Lexington	83	27	529.5		2.5	186.5	19

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS
1981-82 — Continued**

County	Improved Coastal Lob.	Regular Coastal Lob.	Improved Piedmont Lob.	Regular Piedmont Lob.	Slash	Longleaf	White Pine
Marion	726.6	46.5	10		4	10	5.5
Marlboro	178.2	368	510.5	58	1	99.4	4
McCormick			2,543.86	245.6			
Newberry		5	2,045.9	97.5			5.5
Oconee	3.5		219.5			.5	46
Orangeburg	1,252	965.5	550	5	.5		16
Pickens	8	265.5	106.5	.5	15		152
Richland	192	264.5	680.5	157.5	17	9	10
Saluda			1,276.1				21.5
Spartanburg	6	1.5	669	10.5		4	36
Sumter	410.5	156	111	.5	5	61	12
Union	.5	176.5	1,133.1	127			1.5
Williamsburg	1,116.35	2,210.5	17			1	2.5
York	7	5.5	588.5	161.2	1	1	11
Sub Totals	19,929,450	24,993,316	35,001,750	2,504,600	179,500	1,289,400	530,200
Out Of State	174,000	3,897,700	2,274,200	466,900		122,000	
TOTALS	20,103,450	28,891,016	37,275,950	2,971,500	179,500	1,411,400	530,200

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS
1981-82**

County	Virginia Pine	Redcedar	Yellow Poplar	Sweetgum	B. Walnut	Sycamore	Arizona Cypress	Misc.	Totals
Abbeville	13	4							2,303.82
Aiken	19.5	6.5			4		2	101	3,715.96
Allendale	1.5	.5							1,275.49
Anderson	63	6	1.5	.5	2.5	.75	1		827.05
Bamberg	6	.5					1		1,001
Barnwell	5	9			.5		1.5		2,403.05
Beaufort	6	2.2		1	.5		1	5	913.4
Berkeley	8.5	5.5					.5		3,544.55
Calhoun	6.5	6.5			1			878.5	
Charleston	5.5	3	.5	3	1	.5	3		1,992.8
Cherokee	4.5	1.5			3		1		984.5
Chester	5				1		1.5		2,207.886
Chesterfield	3.5	10.5			.5		1.5		2,017
Clarendon	7.5	.5					1		1,736.6
Colleton	3.5	4.087				.075	.5	186	5,307.078
Darlington	8	12			1	.5	1		641.5
Dillon	2	12.5							610.25
Dorchester	7.5	6			1.5	1	1		2,871
Edgefield	4.5	1							2,477.3
Fairfield	7	3.5					1		3,851.53
Florence	4.5	11.5					.5		788.55
Georgetown	1								6,021.7
Greenville	48	9.5	.5	.5	3.5	.5	3		424.15
Greenwood	1	2.5							2,605.97
Hampton	2.5	4					.5	300	1,953
Horry	7.5	4.5			.5	.5	1.5		2,231
Jasper	6	3			.5		1.5	1,814	2,987.5
Kershaw	9	6		1	1	1.5	2		3,412.016
Lancaster	8	.5					.5		1,652.068
Laurens	31	7			5.25		1	.5	2,395.55
Lee	10	4.5		1					247.5
Lexington	29	25		.5	2	1	5.5		910.5

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS
1981-82 — Continued**

County	Virginia Pine	Redcedar	Yellow Poplar	Sweetgum	B. Walnut	Sycamore	Arizona Cypress	Misc.	Totals
Marion	23			.5			1		827.1
Marlboro	.5	4					1.5		1,225.1
McCormick					.5				2,789.96
Newberry	13	1.5		.5		1		.1	2,170
Oconee	12.5	6.5			3.5		2	103.5	397.5
Orangeburg	34.5	10.5		6.5	1	2.5	2		2,846
Pickens	25	6.5	.5	1	3.75	1.5	2		587.75
Richland	27.5	16.5		1.5	1.5	2	7		1,386.5
Saluda	30	11.5		2			1		1,342.1
Spartanburg	36	12.1		2	.5		2.05	5.9	787.55
Sumter	21.5	3.5				.5	2		783.5
Union	2.5	.5					.5		1,442.1
Williamsburg	3.5	11					1		3,362.85
York	23	3			.5		2		803.7
Sub Totals	597,500	260,387	3,000	21,500	42,000	14,325	58,550	2,516,000	87,941,478
Out of State									
Totals	597,500	260,387	3,000	21,500	42,000	14,325	58,550	2,516,000	94,876,278
Grand Total All Columns	94,876,278								

Miscellaneous Species

Dogwood	11.4
Baldcypress	.1
Shortleaf Pine	103.5
Louisiana Lob.	2,300
Livingston Parrish	101
	<u>2,516.5</u>

<i>Year</i>	<i>Total Distributed (State Nurseries)</i>	<i>Total Distributed (Inc. Other Sources)</i>
1928-29	142,000	142,000
1929-30	148,000	148,000
1930-31	986,000	986,000
1931-32	976,000	976,000
1932-33	996,000	996,000
1933-34	1,031,000	1,031,000
1934-35	7,529,000	7,529,000
1935-36	23,000,000	23,000,000
1936-37	22,000,000	22,000,000
1937-38	11,192,000	11,192,000
1938-39	10,854,000	10,854,000
1939-40	12,244,000	12,244,000
1940-41	21,165,423	21,165,423
1941-42	10,275,037	10,275,037
1942-43	4,742,010	4,742,010
1943-44	5,662,608	5,662,608
1944-45	1,926,840	1,926,840
1945-46	6,402,255	6,402,255
1946-47	1,962,600	1,962,600
1947-48	11,356,990	11,356,990
1948-49	30,338,775	30,338,775
1949-50	29,501,955	29,501,955
1950-51	20,615,315	20,615,315
1951-52	16,619,000	16,619,000
1952-53	22,035,850	32,246,298
1953-54	36,210,100	42,852,314
1954-55	35,373,025	45,182,255
1955-56	34,413,550	42,931,755
1956-57	55,753,600	69,658,736
1957-58	60,846,200	93,369,084
1958-59	123,985,000	166,351,000
1959-60	147,146,365	187,516,418
1960-61	145,609,075	158,330,575
1961-62	71,892,420	83,844,470
1962-63	56,191,241	64,201,541
1963-64	51,445,597	62,423,597
1964-65	49,009,893	60,683,493
1965-66	42,310,685	56,529,185
1966-67	48,575,190	69,597,590
1967-68	39,970,136	58,812,136
1968-69	29,529,285	51,453,285
1969-70	31,415,430	49,202,630
1970-71	31,939,880	54,540,880
1971-72	23,677,925	41,357,225
1972-73	30,977,800	45,239,100
1973-74	28,443,000	42,305,500
1974-75	40,081,500	55,996,500
1975-76	40,664,387	59,063,387
1976-77	39,795,375	59,238,275
1977-78	45,734,500	64,380,200
1978-79	43,009,533	65,936,933
1979-80	46,374,919	76,206,619
1980-81	53,512,622	86,419,513
1981-82	55,727,828	87,793,028
TOTAL	1,813,318,719	2,372,720,130

Seedling Survival

One year after seedlings are out-planted, approximately 10% of the plantings in each county are sampled to determine the overall state survival rate. Through these examinations, the Forestry Commission can determine the reason for failures and recommend steps to eliminate such failures in the future. This year the overall state survival indicated by the sampling was 68% compared to 55% the previous year. The relatively low survival was a result of hot dry weather following the 1981-82 planting season. A late freeze also caused mortality.

Research

The Forestry Commission continued cooperative research projects with Clemson University and the U. S. Forest Service. Research work continues with mycorrhiza.

Work in growth and summer out-planting of loblolly and longleaf containerized seedlings continues with results promising enough to initiate the first steps toward commercially producing containerized stock.

Forest Tree Seed Collection

Each year the Forestry Commission collects cones to obtain seed for tree seedling production. Field office personnel locate private collectors in good seed producing areas to obtain some of the cones and other seed needed. An increasing amount of seed is now being obtained from our tree seed orchards. These improved cones are collected by Commission personnel. The seed crop last fall was fair to good for all species. Cones and seeds collected were as follows: Coastal loblolly pine cones from the seed orchard totaled 583 bushels; Piedmont loblolly 781 bushels. In addition, cones and seed collected elsewhere were picked to fill our needs. These were 2,693 bushels of regular coastal loblolly, 3,853 bushels of longleaf cones, 31 bushels of baldcypress, 488 pounds of redcedar berries and 272 bushels of walnuts.

In addition, we purchased 50 bushels of improved Virginia pine cones and 200 pounds of white pine seed.

The seed extractory was operated for the twenty-fifth year with continued good results. Seed costs for 1981-82 averaged \$15.66 per pound of seed from seed orchard cones and \$9.39 per pound of seed for others.

Forest Tree Improvement

A forest tree improvement program was begun in 1963 by the South Carolina Forestry Commission to provide genetically improved seed for all loblolly, slash and longleaf seedlings grown in Commission nurseries. Seed orchards have been established as follows:

Piedmont Loblolly Pine (disease resistant)	5 acres
Piedmont Loblolly Pine	40 acres
Second Generation Piedmont Loblolly Pine	9 acres
Coastal Loblolly Pine (disease resistant)	5 acres
Coastal Loblolly Pine	31 acres
Coastal Loblolly Pine (1.5 generation)	39 acres
Second Generation Coastal Loblolly Pine	4 acres
South Carolina Slash Pine	21 acres
Georgia Slash Pine	22 acres
Longleaf Pine	12 acres
Virginia Pine	1.5 acres
Arizona Cypress	<u>1.25 acres</u>
Total	190.75 acres

In order to have a source for future superior genetic material, the following acreages of clone banks have been established:

Piedmont Loblolly Pine New Plantation Selections	5.8 acres
Coastal Loblolly Pine New Plantation Selections . .	<u>2.2 acres</u>
Total	8.0 acres

Grafts of scion to rootstock in fiscal year 1981-82 consisted of the following:

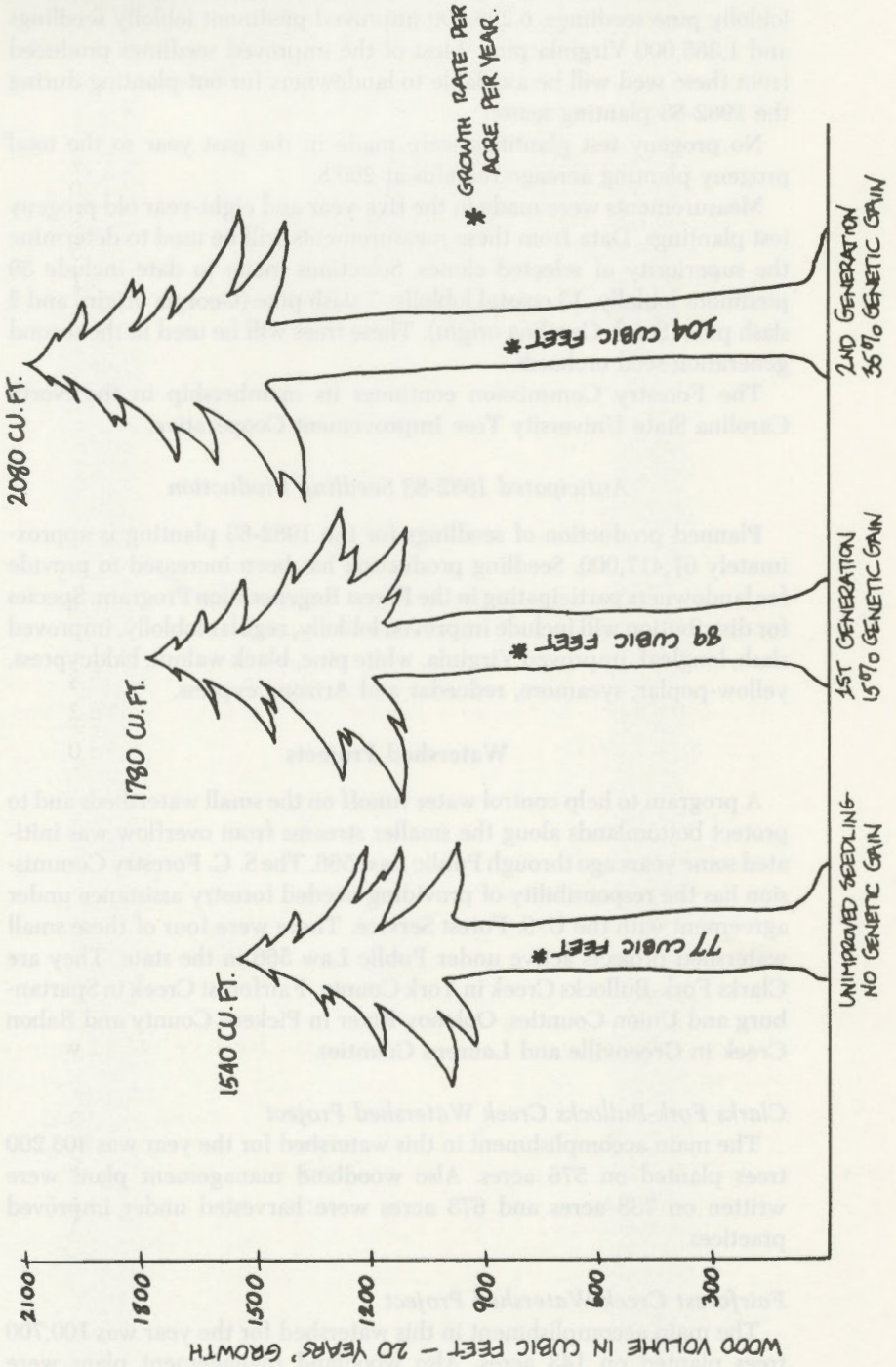
560 Second Generation Coastal Loblolly
1,200 Second Generation Piedmont Loblolly
290 Virginia Pine
480 1.5 Generation Coastal Loblolly

Cones collected and seed yields from seed orchards in 1981-82 were as follows:

<i>Species</i>	<i>Bushel Cones Collected</i>	<i>Pounds Seed per Bushel</i>	<i>Total Pounds Seed</i>
Improved Coastal Loblolly	580	1.35	787
Improved Piedmont Loblolly	780	1.41	1,103
*Improved Virginia Pine	50	.77	38.5
1.5 Generation Coastal Loblolly	12	1.35	16.2

*Not Commission orchard

GROWTH COMPARISON: GENETICALLY IMPROVED / UNIMPROVED SEEDLINGS



It is anticipated that this seed will produce 1,940,000 improved coastal loblolly pine seedlings, 6,296,000 improved piedmont loblolly seedlings and 1,365,000 Virginia pine. Most of the improved seedlings produced from these seed will be available to landowners for out-planting during the 1982-83 planting season.

No progeny test plantings were made in the past year so the total progeny planting acreage remains at 299.8.

Measurements were made in the five-year and eight-year old progeny test plantings. Data from these measurements will be used to determine the superiority of selected clones. Selections made to date include 39 piedmont loblolly, 13 coastal loblolly, 7 slash pine (Georgia origin) and 2 slash pine (South Carolina origin). These trees will be used in the second generation seed orchards.

The Forestry Commission continues its membership in the North Carolina State University Tree Improvement Cooperative.

Anticipated 1982-83 Seedling Production

Planned production of seedlings for the 1982-83 planting is approximately 67,417,000. Seedling production has been increased to provide for landowners participating in the Forest Regeneration Program. Species for distribution will include improved loblolly, regular loblolly, improved slash, longleaf, improved Virginia, white pine, black walnut, baldcypress, yellow-poplar, sycamore, redcedar and Arizona cypress.

Watershed Projects

A program to help control water runoff on the small watersheds and to protect bottomlands along the smaller streams from overflow was initiated some years ago through Public Law 566. The S. C. Forestry Commission has the responsibility of providing needed forestry assistance under agreement with the U. S. Forest Service. There were four of these small watershed projects active under Public Law 566 in the state. They are Clarks Fork-Bullocks Creek in York County, Fairforest Creek in Spartanburg and Union Counties, Oolenoy River in Pickens County and Rabon Creek in Greenville and Laurens Counties.

Clarks Fork-Bullocks Creek Watershed Project

The main accomplishment in this watershed for the year was 403,200 trees planted on 576 acres. Also woodland management plans were written on 738 acres and 673 acres were harvested under improved practices.

Fairforest Creek Watershed Project

The main accomplishment in this watershed for the year was 100,700 trees planted on 143 acres. Also woodland management plans were written on 4,119 acres of woodland.

Oolenoy River Watershed Project

The main accomplishment in this watershed for the year was woodland management plans on 418 acres of woodland and 25 acres of timber thinned.

Rabon Creek Watershed Project

The main accomplishment in this watershed for the year was woodland management plans on 392 acres of woodland and 63 acres of timber properly harvested.

The Forestry Commission has participated in 36 watersheds beginning with work on the Twelve Mile Creek Pilot Watershed in 1956. Forestry work is complete on 32 of the watersheds.

State Forests

There are four state forests operated by the Forestry Commission:

Cassatt State Forest	462 acres
Harbison State Forest	2,188 acres
Manchester State Forest	28,830 acres
Sand Hills State Forest	<u>92,000 acres</u>
Total	123,480 acres

Prior to acquisition by the state, most of the land included in the state forests had been heavily cut over and generally misused. The primary efforts since acquisition by the state have been directed to building up the growing stock in existing forest stands, planting submarginal old fields to desirable species of forest trees, developing adequate multiple use and wildlife management programs, and protecting endangered species.

It is the objective of the S. C. State Commission of Forestry to practice on forestlands under its jurisdiction the principles of high quality multiple use and sustained yield timber management, and to promote practices to protect and enhance environmental quality in the management of all forest ownerships.

Multiple use denotes managing all of the forest's renewable resources so that they are utilized in combinations that will best meet the needs of the environment and the people of South Carolina.

In most instances forestland is not fully serving the people if it is used exclusively for a purpose which could also be achieved in combination with several other uses. However, multiple use does not imply that all uses must coexist at the same time and place on a given acre of forestland. Because of specific circumstances on a given acre, one use might be dominant while other uses are subordinate.

The practice of multiple use therefore usually requires compromise. The Commission believes that such compromise and limitations are acceptable and desirable when there is greater total benefit.

Silvicultural practices are carried out on small blocks interspersed throughout a compartment. This even-age management produces compartments representing all age groups of timber; i.e., newly-cleared areas favored by doves, quail and deer; young dense stands for cover and concealment; and older, more open stands for quail, deer, and the endangered red-cockaded woodpecker. Den trees for squirrels are reserved. Game census reports indicate this method of management produces close to optimum numbers of game species and timber production with cost of management not adversely affected.

Demonstrations and Meetings

Several group meetings were held on the state forests to observe and discuss research and experimental work. Many individuals come to see other ongoing forest management practices and applications, particularly the conversion of extensive scrub oak areas to pine plantations.

Payment to Counties

Twenty-five percent of the gross receipts of all state forest operations is paid to the counties in lieu of taxes. This year's payments to counties were as follows:

Chesrterfield (Sand Hills State Forest)	\$86,265.94
Sumter (Manchester State Forest)	\$42,889.83
Darlington (Sand Hills State Forest)	\$ 1,047.76
Kershaw (Cassatt State Forest)	\$ 145.08

In the past 24 years since the passage of this Act, the Forestry Commission has paid a total of \$2,191,178.89 to counties where the state forestlands are located as follows:

Chesterfield	\$1,406,826.88
Sumter	\$ 692,221.58
Richland	\$ 49,605.16
Kershaw	\$ 8,494.49
Darlington	\$ 34,030.78

Research

Most of the Commission's research efforts were through cooperative studies with Clemson University, N. C. State University, and the U. S. Forest Service, Southeastern Forest Experiment Station.

Cassatt State Forest

Cassatt State Forest, containing 462 acres, is located about two and one-half miles north of Cassatt, S. C. It was deeded to the state by the late J. R. West on May 28, 1935. A CCC Camp was located there. Cassatt Tower and a dwelling for the towerman were erected by the CCC and continue to be used for fire detection.

Sand Hills State Forest personnel have established and maintained a system of boundary firebreaks. Breaks have also been plowed around plantations and along the public road which crosses this property and all boundary lines have been permanently marked.

Harbison State Forest

Harbison State Forest, containing 2,188 acres, is located in Richland County. The Richland County fire control organization is responsible for fire protection and is assisted by a caretaker. No fires burned on the forest during the year. No timber sales were made in 1981-82.

Most of the Harbison Forest is well-stocked and is in good growing condition. During the 30 years the state has owned this property, timber receipts have paid for the land purchase plus interest and all operating costs, and have returned a substantial amount to the state and county treasuries. A comprehensive land use study was completed during the year which resulted in a Harbison State Forest Master Plan of Management Objectives. Good progress was made on implementing the Forest Master Plan.

Manchester State Forest

Manchester State Forest, located south of Wedgefield in Sumter County, contains 28,830 acres. From 1939 to 1955 this land was leased to the S. C. State Commission of Forestry from the federal government. The state received fee title to this property on June 28, 1955. Most of the old fields except those being farmed have been planted to trees.

Five hundred and eighty four acres of land were rented for agricultural purposes during the year.

Game Management:

An intensified program of game management has been introduced in cooperation with Sumter County Game & Fish Association. In addition to utilizing normally unused land under power lines for wildlife plantings,

permanent wildlife fields and food patches have been established. Receipts from hunting and fishing permits totaled \$6,316.40 this fiscal year.

Of the 5,406 permits sold, 1,273 were for deer hunting. Sixty-one deer were killed. During the year 729 dove permits were sold. Quail hunting accounted for 312 permits. Combination rabbit and squirrel permits totaled 902. A total of 2,190 fishing permits were sold.

Recreation other than hunting and fishing includes hiking, berry picking, sightseeing, motorcycling, horseback riding and field trials. A horse trail was completed in Compartment I. It consists of 30 miles of marked trail and two staging areas.

Tree Planting:

Fifty-six acres were planted. Longleaf pine was planted on 50 acres and six acres were planted with improved loblolly pine.

Manchester Receipts for 1981-82 Fiscal Year:

Sawtimber — 646,606 bd. ft.	\$111,049.50
Pulpwood — 683.5 cords	\$ 10,282.07
Fuelwood — 667 permits — 586.75 cords	\$ 3,515.50
Rentals, leases, and miscellaneous	\$ 46,508.50
Hunting and fishing permits	\$ 6,316.40
Total	\$177,671.97

Silvicultural Practices:

One hundred ninety acres were site prepared using heavy equipment. Six acres of pine were released from scrub oak competition and 104 acres were prescribe burned.

Forest Protection:

Eleven forest fires occurred during 1981-82, burning a total of 52.9 acres. Monthly checks were made for insect and disease damage. Research in cooperation with the Southeastern Forest Experiment Station is being continued on insects and disease prevention.

In addition to the formal research projects, demonstration areas were used by Clemson students, 4-H clubs and other interested groups.

Shaw Air Force Base:

The U. S. Air Force leases 7,687 acres of Manchester State Forest for an aerial gunnery range to train pilots from various Air Force bases in the southeastern United States. The South Carolina Air National Guard has access to the range and uses it frequently.

Sand Hills State Forest

Sand Hills State Forest, located in Chesterfield and Darlington Counties, contains 92,000 acres. Half of the area is administered by the U. S. Fish and Wildlife Service as a wildlife refuge. The State Commission of Forestry is responsible for forest fire protection and forest management activities on the refuge portion and administers the other half as a multiple use forest. Leased from the federal government on a 95-year lease, the area became self-supporting in 1966. All revenue over expenses is expended back on the forest for further improvements and expanded operations.

Before this area was acquired by the federal government, it was heavily cut over and badly burned. As a result of this abuse, major activities since acquisition have primarily been tree planting, fire protection and other practices aimed at building up the productivity of the land and increasing timber volume and wildlife habitat. Through the use of forest inventory data obtained periodically, the allowable cut and distribution of the various age classes of pine and hardwood timber is regulated.

Timber removal this year has been removing overstory pine to release natural seedlings in understocked stands; cutting understocked stands prior to mechanical site preparation and planting; thinnings, and improvement cuts.

A revised forest management plan is now in use which includes multiple resource management concepts. It is planned for each of the twenty-one compartments to contain stands of varied age groups and species composition with open farm fields and wildlife plantings throughout. Quality mast-producing hardwoods are maintained on appropriate sites. Important consideration is given the red-cockaded woodpecker in all management planning and according to the mandates of the Endangered Species Act of 1973.

Research is conducted on the forest by the Southeastern Forest Experiment Station and state universities. Demonstration areas are maintained to instruct interested individuals and groups such as 4-H, Boy Scouts, Tree Farmers, and foresters.

Tree Planting:

Tree planting consisted of areas harvest-cut and site prepared. A total of 353 acres were planted with the following species:

Longleaf	254,000
Improved Piedmont Loblolly	22,000
TOTAL	276,000

Sand Hills Receipts for 1981-82 Fiscal Year:

Timber sales	\$307,984.42
Fuelwood permits	1,990.00
Hunting and fishing permits	6,481.00
Real property rentals (farmland)	15,426.71
Miscellaneous (stumps, pine straw, etc.)	15,557.86
TOTAL	\$347,439.99

Silvicultural Practices:

During the year, 1,072 acres were prescribe burned. One hundred seventy-one acres were burned and disked for planting.

Forest Protection:

Forest boundary lines were disked and firebreaks disked along major roads and railroads for fire protection. The prescribed burning enhances fire protection due to the fuel reduction in burned areas. Fourteen wildfires occurred, burning a total of 164.5 acres. Forest insects and diseases were no problem during the year.

Recreation:

The Sugar Loaf Mountain recreation area continued to receive heavy use. Besides the naturally-formed 150-foot high Sugar Loaf Mountain, there are five picnic shelters, a lake, fireplaces, a flowing well, parking areas, and latrines. Scout troops and other organized groups use this area and facilities for overnight camping. Many auto touring visitors drive through this forest, especially to view the fall leaf colors and to enjoy the blooming rhododendron near Sugar Loaf Mountain in the spring. A nature trail is available for hiking. The trail winds through a typical sand hill branch and an undisturbed wooded area containing many species of mature trees. Use by horse riders continues to increase each year. Hitching posts have been erected.

Fish and Wildlife:

Hunting and fishing are conducted in season by permit on the forest area. Cooperation by the State Wildlife Resources Commission and the U. S. Fish and Wildlife Service, with the Forestry Commission assisting, was excellent in game law enforcement. Deer, dove and quail food patches are planted and maintained by the Forestry Commission.

There are 13 ponds available for fishing on the forest. These are maintained through annual fertilization and weed control. Fishing permits totaled 2,853 this year.

Dove, quail, squirrel, deer and rabbit hunting were permitted on the state forest portion. Permit sales totaled 278 for dove, 147 for squirrel, 546 daily and four season for quail, 48 daily and 115 two-week season for deer, and 15 daily for rabbit.

Other State Lands Forest Management Program

During the fiscal year 1981-82 seven agencies requested and received forestry assistance. Forest management plans were prepared on four tracts covering 1,251 woodland acres. Forest products sales totaled 540,569 board feet of sawtimber and 5,979 cords of pulpwood for an income of \$166,349.82. Twenty-seven were site prepared for tree planting and ninety-two acres were planted to tree seedlings. Approximately one hundred, eighty-nine acres were prescribe burned.

The following is a breakdown by agencies of the work accomplished during 1981-82.

Clemson University Agricultural Experiment Stations — Sale of 225 cords of pulpwood for an income of \$5,267.00. A forest management plan was prepared on 736 acres of woodland. Eighty-six acres were prescribe burned. Twenty-seven acres were planted to tree seedlings.

Department of Corrections — Sale of approximately 110,000 board feet of sawtimber and 636 cords of pulpwood for an income of \$23,788.00.

Division of General Services — Sale of approximately 15,000 board feet of sawtimber and 50 cords of pulpwood for an income of \$2,300.00. Two management plans were prepared on 377 acres of woodland.

John de la Howe School — Sale of 193 cords of pulpwood for an income of \$3,944.89.

Department of Mental Health — Fifty-four acres were planted to tree seedlings.

Division of State Parks — Sale of 10,241 board feet of sawtimber and 4,708 cords of pulpwood for an income of \$70,104.43. Approximately 103 acres were prescribe burned.

Wildlife and Marine Resources — Sale of 405,328 board feet of sawtimber and 156 cords of pulpwood for an income of \$60,945.50. Nine acres were planted to tree seedlings. A forest management plan was prepared on 138 acres of woodland.

The following table shows, by agencies, the number of woodland acres for which long-range forest management plans have been prepared.

Clemson Agricultural Experiment Stations	1,264
Department of Corrections	2,621
Department of General Services	766
John de la Howe School	1,056
Department of Mental Health	1,073
Department of Mental Retardation	1,142
S. C. State College	198
Department of Parks, Recreation and Tourism	39,428
Wildlife and Marine Resources	13,704
Department of Youth Services	319
	<hr/>
	61,571

*Other State Lands Forest Management Program
1981-82 Forest Products Sales*

<i>Agency & Sale No.</i>	<i>Purpose of Cut</i>	<i>Bd. Ft.</i>	<i>Cords</i>	<i>Sale Price</i>
Clemson Experiment Stations				
Edisto 3-1	Improvement Thinning		225	\$ 5,267.00
Department of Corrections				
Waterlee 3-M-4	Construction	± 110,000	± 600	23,431.00
Livesay Center 3-M-1	Construction		36	357.00
Division of General Services				
Surplus Property 3-M-2	Construction	± 15,000	± 50	2,300.00
John de la Howe School de la Howe 3-11 and 3-11-A	Improvement Thinning		193	3,944.89
Division of State Parks				
Cheraw 3-M-25	Dead Tree Salvage		146	585.00
Croft 3-M-18	Bug Salvage		111	556.20
Greenwood 3-M-6	Bug Salvage and Construction		140	1,397.40
Hampton Plantation 3-M-1	Construction		48	477.90
Hunting Island 3-1	Improvement Thinning		663	11,403.60
Long Bluff 3-1	Improvement Thinning		1,632	32,500.00
Kings Mountain 3-M-7	Bug Salvage	10,241	1,793	22,208.65
Paris Mountain 3-M-12	Fire and Bug Salvage		156	625.68
Sesqui 3-M-11	Construction		30	350.00
Wildlife and Marine Resources				
Webb Center 3-12	Improvement and Regeneration Cut	405,328	154	60,854.00
Webb Center 3-M-7	Construction		2	91.50
		540,569	5,979	\$166,349.82

Young Adult Conservation Corps (YACC)

The Young Adult Conservation Corps (YACC) was funded under Title VIII of the Comprehensive Employment and Training Act (CETA) and is an agreement between the Secretary of Labor and the Secretaries of Agriculture and Interior.

The purpose of YACC is to provide employment and other benefits to young men and women, ages 16-23, who would not otherwise be currently productively employed. They engage in useful conservation work and aid in completing other projects of a public nature on Federal and non-Federal public lands and waters.

Projects for the year were at Coastal Nursery, St. George; Creech Seed Orchard, Wedgefield; and Piedmont Nursery, Salem.

The Forestry Commission's contract, starting with the Federal F. Y. October 1, was for 17 YACC members plus one supervisor and one clerk. The program was officially ended by a directive from Washington on April 30, 1982. The last day of work for the corp members was March 31, 1982.

South Carolina Tree Farm System

The South Carolina Tree Farm Program gives public recognition to private timberland owners who are doing outstanding jobs in managing

their forestlands, thereby encouraging others to do likewise. The basic aim of the Tree Farm Program is to place more woodland under good forest management practices to bring continuing benefits to the owners and produce more and better forest products and services.

To become a Tree Farmer a landowner must demonstrate the desire and ability to protect his trees from fire, insects, diseases, and destructive grazing. In addition, he must apply sound cutting practices to improve the growth of the timber stand. Forestry measures designed to insure the growing and harvesting of repeated tree crops must be followed, including measures to assure satisfactory reproduction, either from natural seeding or planting.

Before a woodland may be certified as a Tree Farm, it must be inspected by a qualified forester who submits an inspection record for consideration by the State Tree Farm Committee. When a property is approved as a Tree Farm, the owner is given a certificate and a diamond-shaped green and white sign denoting his membership in the Tree Farm System. It is hoped that his neighbors and others who see the sign and the good forestry practices will come to better understand forest values and forestry practices.

The South Carolina Tree Farm System is sponsored by the local forest industries through the Southern Forest Institute which is the southern affiliate of the national organization, the American Forest Institute. The S. C. Forestry Commission, Clemson University Extension Service and consulting foresters and woodland owners in South Carolina cooperate and assist with the program. A Tree Farm Committee, made up of representatives from the above mentioned industries and organizations, administers the program.

As of June 30, 1982, there were 1,098 Tree Farms in the state comprising 3,012,612 acres.

A new program adopted by the S. C. Tree Farm Committee in 1981 is designated to encourage certain forest landowners by recognizing them as Pioneer Tree Farmers. For a two-year period inspecting foresters would work with them to instigate the forest management practices needed so that they would qualify for certification as a Tree Farmer. If the management goal is not reached in the two-year period, the Pioneer Tree Farmer would be either dropped from the program or he would be re-enlisted on an extended time. Since its adoption, two persons have become Pioneer Tree Farmers with a total of 293 acres of woodland.

FOREST FIRE PROTECTION

Introduction

Beginning in 1945 with the passage of the State Forest Fire Protection Act, all state and privately owned lands have been provided intensive forest fire protection by the South Carolina Forestry Commission.

Within South Carolina, there are 12,031,090 acres of state and privately owned woodlands now under protection. An additional 548,724 acres of National Forest lands are protected by the U. S. Forest Service. Other Federal agencies own and protect another 280,101 acres of land in South Carolina.

Organization

As an organization, the State of South Carolina is divided into two regions: the Coastal Region, consisting of four districts, Florence, Kingstree, Orangeburg and Walterboro; and the Piedmont Region, consisting of three districts, Camden, Newberry and Spartanburg and two State Forests, Sand Hills and Manchester. The fire control activities of the state are coordinated and supervised by two Regional Foresters. In addition, each district is supervised by a District Forester, and each state forest is supervised by a Forest Director. Each of the seven districts consists of several county fire control units that work directly with landowners on forest fire prevention, detection and suppression activities. In charge of each of the 46 county units within the seven districts is a County Ranger, who supervises the activities of all Wardens and Tower Operators within the county.

Assisting the various county units are the many volunteer personnel encountered while conducting fire control activities. A total of 12,780 volunteer personnel assisted during 1981-82.

Cooperative Agreement with the U. S. Forest Service

A formal agreement is maintained between the S. C. Forestry Commission and the U. S. Forest Service whereby each party agrees to render assistance to the other in detecting and suppressing forest fires along national forest boundaries.

Law Enforcement

During fiscal year 1981-82 the Forestry Commission had a total of 87 employees commissioned as law enforcement officers. These officers are trained in the various aspects of forest fire law enforcement and are empowered by the Governor to enforce forestry laws in the State. Forest fire law enforcement within South Carolina is accomplished with the cooperation of the State Law Enforcement Division (SLED), County Sheriffs, and other local officers. As in previous years, the cooperation from all law enforcement agencies was excellent.

Law enforcement records for this year show a total of 70 prosecutions and 61 convictions relating to violations of the State forest fire laws. Forty-three prosecutions and 37 convictions under the Careless and Negligent law were recorded, as were 24 prosecutions and 21 convictions under the Burning Notification Law, 2 prosecutions and 2 convictions under the Intentional Law and 1 prosecution and 1 conviction under the Willful and Malicious Law.

Forestry Summons Law

On February 19, 1982 the Governor signed a Forestry Summons Law for South Carolina. This law gave the Forestry Commission the authority to prescribe and prepare a special official summons to be used exclusively by forest law enforcement officers of the Commission in making arrests for offenses punishable by fines not to exceed two hundred dollars, or imprisonment not to exceed thirty days.

This law was implemented during the spring fire season and cases handled by use of the issuance of a summons prior to the end of the fiscal year.

Forest Law Enforcement Officers

On May 25, 1982 the Governor signed the Forest Law Enforcement Officers Law, giving the Forestry Commission the authority to appoint it's own Forest Law Enforcement Officers for the enforcement of forestry laws and duly enacted regulations of the Commission. The law also specifies that the Forestry Commission shall, in coordination with the Criminal Justice Academy, establish training programs consistent with the Commission's particular needs in law enforcement. This law is in the process of being implemented.

Burning Notification Law

On June 24, 1969 the Governor signed a statewide Notification of Intent to Burn Law for South Carolina. This statewide law repealed burning permit laws in eight counties and burning notification laws in twenty-six counties which had been passed on a county-by-county basis. The State Forester may direct that fires covered in the Notification Act not be started when deemed necessary in the interest of public safety. Burning notifications totalled 62,428 during this fiscal year.

Fire Plans

Each of the State's 46 counties is provided a fire control plan that guides and controls the various fire suppression activities within the county. These plans are kept current and revised to conform with changing conditions and the latest operating procedures.

A fire control plan is prepared for landowners who request assistance and guidance in maintaining adequate forest fire protection for their woodlands.

Southeastern States Forest Fire Compact Commission

The 1954 General Assembly passed legislation enabling South Carolina to join with nine (9) other southeastern states to form a Forest Fire Compact Commission. Other states belonging to the Commission are: Alabama, Georgia, Florida, Kentucky, Mississippi, North Carolina, Tennessee, Virginia, and West Virginia. The membership of the Commission for each state is composed of a Compact Administrator (the State Forester), and a four-member Advisory Committee. The Advisory Committee for South Carolina consists of: Leonard A. Kilian, Jr., State Forester, Chairman; Senator L. Marion Gressette, Calhoun County; Representative Marion P. Carnell, Ware Shoals; and two members, Mr. Harold Lott of Blackville, and Mr. Authur Smith of Eastover, at large.

Twenty-Eighth Annual Meeting (SSFFCC) — June 2, 1982

The twenty-eighth annual meeting of the Southeastern States Forest Fire Compact Commission (SSFFCC) was held on June 2, 1982 at Wilmington, North Carolina. State Forester Leonard A. Kilian, Jr., was Chairman. Several working committees were established to improve the effectiveness of the Compact.

Southern States Fire Chiefs Meeting

The meeting of the Southern Fire Chiefs was held in Wilmington, North Carolina on June 2, 1982. Discussion topics were fireline safety, economic planning, NIIMS, fire prevention and fire weather forecasting.

Fire Towers

The Forestry Commission's basic forest fire detection program is accomplished by the interlocking network of 138 forest fire lookout towers. These towers are strategically located so that each tower's normal range of visibility overlaps with the adjoining tower's area. With overlapping coverage, smokes and suspected wildfires can be observed, located and checked out.

Tower Operators in State and Federal towers cooperate in spotting and reporting fires that occur within their range of visibility. Radio communications are maintained between State and Federal towers at Kelly-Whitmire and McCormick-Liberty Hill. Detection through the use of spotter aircraft is used extensively by the U. S. Forest Service in South Carolina and in many areas supplemental forest fire detection by towers is performed only on higher fire danger days.

S. C. Disaster Preparedness Agency (Civil Defense)

On April 6, 1973, an act was signed by the Governor providing for Civil Defense and Disaster Control in South Carolina. This act set up an agency to be designated as the South Carolina Disaster Preparedness Agency (formerly Civil Defense).

The South Carolina Forestry Commission maintains contact with the S. C. Disaster Preparedness Agency and cooperates closely with them on matters concerning all emergencies and natural disasters that occur. The Forestry Commission also provides communications between Disaster Preparedness Headquarters and local Civil Defense chairmen during civil defense alerts and exercises.

Forestry Commission personnel also participate in exercises conducted by the S. C. Disaster Preparedness Agency. The Forestry Commission participated in the Oconee Fixed Nuclear Facility Exercise on March 10-11, 1982. The purpose of this exercise was to test the response of State and local governments to a major accident at the fixed nuclear facility.

Air Tanker Program, S. C. Forestry Commission

The primary purpose of the air tanker is to aid ground crews in the initial attack of going fires. It is also used in areas of difficult terrain such as boggy areas and steep mountainous slopes where the use of ground equipment is limited. Air tankers cannot replace ground equipment, but because of their capability to respond quickly when needed they can keep a fire from spreading until ground crews can arrive and complete control.

The S. C. Forestry Commission has used air tankers for retardant delivery on wildfires for the past four fiscal years. In all years, tankers were contracted for the peak fire occurrence months of February, March and April.

Under a contract with Bruce Kinney of Richey, Montana, two 1,000 gallon tankers were used in fiscal year 1981-82. Tanker 101, a PV-2, was stationed at Walterboro February 20 through April 4, 1982. Tanker 104, a B-26, was stationed at Georgetown March 2, through April 13. Satellite bases were set up at Marion and Camden and a mobile base at Spartanburg.

Aerial delivery of retardants has proven to be a very effective program with a cost benefit ratio of about 9 to 1 in a normal year. Its best use is in initial attack and backup for ground suppression units, especially in high value stands where the potential for loss is great.

Aerial Detection

The Forestry Commission recognizes the necessity of aerial detection. During 1981-82, 156.8 hours were flown using contract aircraft. In addition, the Forestry Commission operates two excess property aircraft and these were flown a total of 246.5 hours during the year. Total aircraft use for the year was 403.3 hours. Both contract and Forestry Commission aircraft are used to separate legal burning from forest fires, to help ground crew personnel find the best way into a fire area, to warn of existing dangers, and many other indispensable uses.

SUMMARY OF AIRCRAFT USE — 1981-82

Month	Camden Hours	Florence Hours	Kingsree Hours	Newberry Hours	Orangeburg Hours	Spartanburg Hours	Walterboro Hours	Total Hours
July	—	—	—	—	—	—	3.7	3.7
August	—	—	—	—	—	—	—	—
September	—	—	—	—	—	—	1.2	1.2
October	—	—	5.0	—	—	—	17.3	22.3
November	—	4.4	8.7	—	—	4.5	6.5	24.1
December	7.6	9.3	24.6	—	10.0	—	10.9	62.4
January	—	—	4.0	—	—	—	4.0	8.0
February	—	4.8	18.0	—	13.4	—	7.6	43.8
March	—	29.0	85.2	—	11.0	—	33.1	158.3
April	—	21.3	33.2	—	5.0	2.5	9.5	71.5
May	—	—	1.3	—	—	—	3.2	4.5
June	—	—	0.5	—	—	—	3.0	3.5
Total	7.6	68.8	180.5	—	39.4	7.0	100.0	403.3*

* This figure includes 156.8 hours contract aircraft and 246.5 hours Forestry Commission aircraft.

Fire Weather Forecasting

Beginning in July 1965, regular and special fire weather forecasts have been available to the S. C. Forestry Commission and other interested agencies and individuals through the National Weather Service Office, West Columbia.

Throughout the fire season, fire weather forecasts are received twice daily by the Forestry Commission and transmitted to all districts, counties, and forestry interests. Special forecasts are available upon request for areas with large going fires and during periods of extreme fire danger.

Fire Danger Measurement

Fire danger measurement stations are located in each district to obtain essential local weather information. This information is disseminated to all fire control personnel for guidance in work planning and fire suppression readiness.

Eleven of these weather stations furnish special information to the South Carolina Fire Weather Forecaster to assist with general forecasting. Forest fire danger is rated on the National Fire Danger Rating System by class day ranging from 1 to 5, with 1 being the least dangerous and 5 the period of greatest fire danger. During 1981-82 fiscal year, fire danger station averages indicated the following:

Number of Class 1 Days — 201
 Number of Class 2 Days — 58
 Number of Class 3 Days — 82
 Number of Class 4 Days — 18
 Number of Class 5 Days — 6

Legal Fires

Legal fires are all forest fires which are previously authorized by the landowner, and started by him or his authorized agent and burn entirely upon his land. Legal fire records show that individual landowners conducted 6,321 fires that burned an estimated 513,219 acres for various purposes during 1981-82.

Legal fire categories and the acreage burned are as follows:

<i>Reason for Burn</i>	<i>Number</i>	<i>Acres</i>
Hazard Reduction — Hardwood Control	2,541	278,583
Wildlife Improvement	912	120,219
Grazing	438	19,212
Seed Bed Preparation	20	1,688
Disease	5	104
Site Preparation	335	35,532
Debris	1,462	21,521
Miscellaneous	608	36,360
Total	6,321	513,219

Rural Community Fire Protection

The Rural Development Act of 1972, Title IV (Public Law 92-419) and as amended by Public Law 95-113, the Food and Agriculture Act of 1977, authorized the Secretary of Agriculture to develop a three-year pilot Rural Community Fire Protection Project. This program applies to rural communities throughout the United States and was established to provide financial and technical assistance for organizing, training, and equipping local fire fighting forces in communities under 10,000 population. Such qualifying fire departments have been able to apply for these funds on a 50-50 matching basis. Funds are utilized mostly on equipment, such as hose, protective clothing, communications equipment and breathing apparatus.

Funding began in fiscal year 1975 when South Carolina received \$53,000 for distribution and continued in fiscal year 1976 when \$62,840 was made available. Funding for fiscal year 1981-82 was set at \$45,100. One hundred and thirteen departments were assisted with these funds.

Federal Excess Equipment

During fiscal year 1976-77 the Forestry Commission began lending excess military equipment to rural fire departments. This equipment, loaned to the Forestry Commission by the U. S. Forest Service, is provided to qualifying rural fire departments for conversion to useful pieces of fire fighting equipment. The department receiving this equipment agrees to paint, maintain, insure and respond to calls by the Forestry Commission. All equipment is returned to the Forestry Commission when no longer needed by the department.

Since the Cooperative Rural Fire Program began in January of 1976, 266 vehicles and other miscellaneous tanks and spray equipment have been loaned to 185 rural fire departments in South Carolina. At present 170 departments have in use 264 pieces of excess property equipment. During fiscal year 1981-82 rural fire departments were issued 18 pieces of excess property equipment.

Smoke Management

In the spring of 1980, Voluntary Smoke Management Guidelines for Forestry Prescribed Burning Operations were adopted. This statewide program was developed by a committee of the S. C. Forestry Association in cooperation with the S. C. Forestry Commission.

The objective of the program is to minimize particulate concentrations of smoke in smoke sensitive areas resulting from forestry prescribed burning operations by defining those days and volumes of vegetative debris that may be burned.

Training meetings were held in Charleston and Columbia with approximately 100 in attendance. During this second year of the program, 1981-82, 952 prescribed burns, representing 124,066 acres were carried out under the Voluntary Smoke Management Guidelines. This represents an increase of approximately 50% in participation in the program from last year.

Forest Fire Summary

During fiscal year 1981-82 South Carolina recorded 7,334 wildfires and 32,709.6 acres burned. This includes forest and non-forest land fires. The average size forest land fire was 4.5 acres, compared to the five year average of 4.9 acres. Fires occurring on non-forest land this year totalled 1,290 and burned 3,840.8 acres. The non-forest category refers to land used for non-forest purposes, such as fields, pastures, rights of way, etc.

During this year 6,459 forest land wildfires occurred that burned over 28,868.8 acres. The largest wildfire burned 746 acres and occurred in Charleston County.

The greatest forest land losses were experienced during the year in Colleton County with 328 fires burning 2,365 acres; Jasper County with 226 fires burning 1,405 acres; Williamsburg County with 433 fires burning 1,806 acres; Horry County with 370 fires burning 1,621 acres; Charleston County with 107 fires burning 1,542 acres; Berkeley County with 389 fires burning 1,497 acres; Orangeburg County with 377 fires burning 1,405 acres; Florence County with 304 fires burning 1,109 acres; and Georgetown County with 255 fires burning 1,039 acres. Counties that experienced only very light losses were Chester, with 31 fires for 99 acres; York with 57 fires for 99 acres; Union with 25 fires for 95 acres and Newberry with 38 fires for 46 acres. Twenty-eight counties recorded less than 100 fires each during the year.

During the 1981-82 fiscal year, a total of 3,546 fires were discovered by fire towers and relayed to forest fire control personnel for suppression. Landowners and cooperating citizens also responded by calling in 3,997 fires to the Forestry Commission. Forestry Commission personnel also checked out 4,469 false alarms during the year. A false alarm is a check on a suspected forest fire that ultimately does not require any suppression action. This includes legal prescribed burnings and legal field fires.

The leading causes of forest land fires in order of importance were: Incendiary 42%, Debris Burning 25%, and Smoking 13%.

Precipitation in South Carolina during 1981-82 averaged 56.74 inches as recorded at the 11 fire danger rating stations located throughout the State. The precipitation is 8.42 inches above the State's annual average of 48.32 inches. The annual average precipitation is compiled by the National Weather Service.

Average precipitation was recorded as follows:

<i>Month</i>	<i>Amount Rainfall (Inches)</i>	<i>Departure from Normal (Inches)</i>
July 1981	6.71	+0.81
August 1981	6.61	+1.43
September 1981	1.75	-2.62
October 1981	3.27	+0.39
November 1981	1.42	-1.23
December 1981	7.57	+4.08
January 1982	6.09	+2.56
February 1982	5.82	+2.04
March 1982	2.06	-2.78
April 1982	5.83	+2.27
May 1982	3.55	—
June 1982	6.06	+1.47
Total	56.74	+8.42

A five-year summary of precipitation by fiscal year is shown below:

<i>Year</i>	<i>Amount Rainfall (Inches)</i>	<i>Departure from Normal (Inches)</i>
1977-78	55.11	+ 6.79
1978-79	57.48	+ 9.16
1979-80	59.03	+10.71
1980-81	41.30	- 7.02
1981-82	56.74	+ 8.42
Average	53.93	+ 5.61

FOREST LAND FIRES AND ACREAGE BURNED IN SOUTH CAROLINA

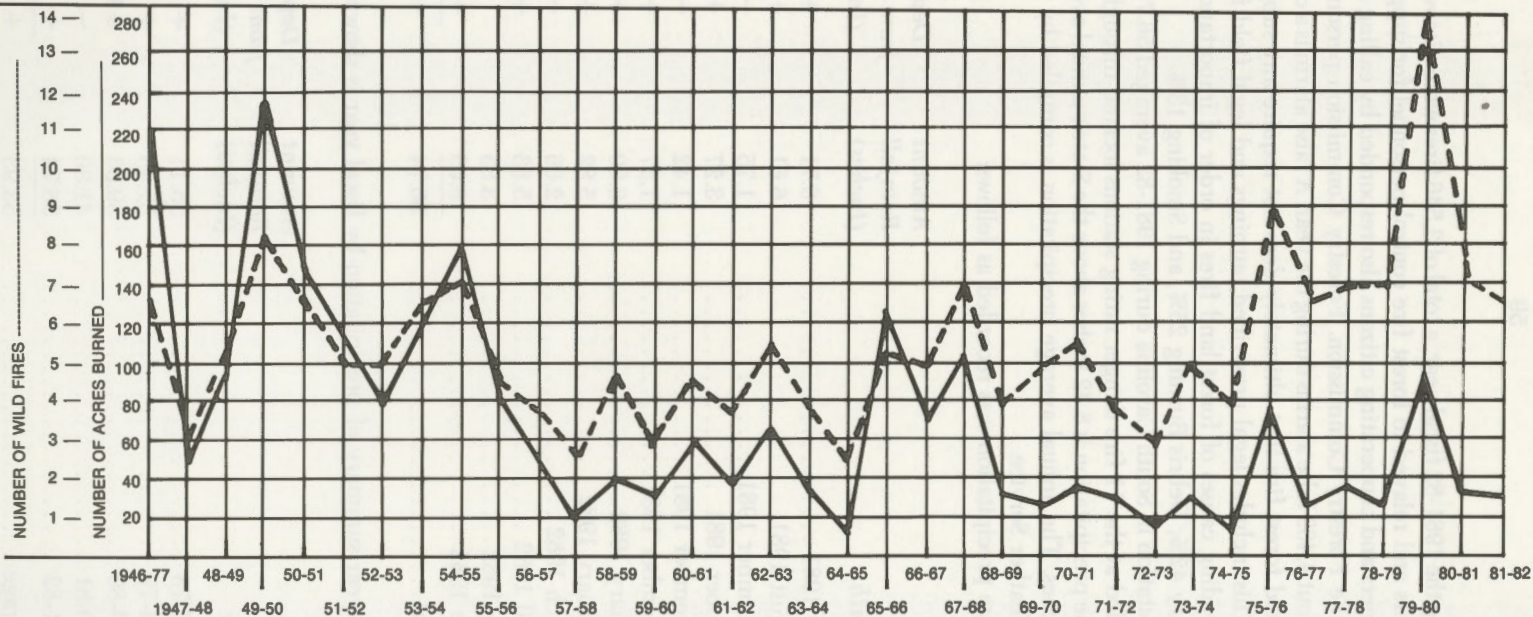


TABLE 1 — PROTECTION PERSONNEL
Fiscal Year 1981-82

County	Organized Personnel				Volunteer Personnel	Grand Total
	Rangers	Wardens	Tower Operators	Totals		
Abbeville	1	3	1	5	336	341
Aiken	1	6	5	12	810	822
Allendale	1	3	3	7	49	56
Anderson	1	3	3	7	445	452
Bamberg	1	3	2	6	166	172
Barnwell	1	4	2	7	143	150
Beaufort	1	5	3	9	246	255
Berkeley	1	7	4	12	402	414
Calhoun	1	3	2	6	109	115
Charleston	1	7	3	11	79	90
Cherokee	1	2	1	4	1,222	1,226
Chester	1	4	1	6	157	163
Chesterfield	1	4	4	9	467	476
Clarendon	1	5	3	9	275	284
Colleton	1	8	5	14	339	353
Darlington	1	3	3	7	395	402
Dillon	1	3	2	6	58	64
Dorchester	1	6	3	10	129	139
Edgefield	1	3	1	5	79	84
Fairfield	1	5	3	9	337	346
Florence	1	6	4	11	512	523
Georgetown	1	6	4	11	400	411
Greenville	1	4	4	9	461	470
Greenwood	1	3	2	6	188	194
Hampton	1	4	3	8	109	117
Horry	1	8	4	13	466	479
Jasper	1	7	2	10	238	248
Kershaw	1	7	6	14	351	365
Lancaster	1	4	2	7	457	464
Laurens	1	4	2	7	534	541
Lee	1	3	3	7	119	126
Lexington	1	7	5	13	418	431
Marion	1	5	3	9	225	234
Marlboro	1	5	3	9	227	236
McCormick	1	2	2	5	98	103

TABLE 1 — PROTECTION PERSONNEL
Fiscal Year 1981-82

<i>County</i>	<i>Organized Personnel</i>				<i>Volunteer Personnel</i>	<i>Grand Total</i>
	<i>Rangers</i>	<i>Wardens</i>	<i>Tower Operators</i>	<i>Totals</i>		
Newberry	1	4	2	7	265	272
Oconee	1	3	2	6	115	121
Orangeburg	1	7	5	13	277	290
Pickens	1	4	5	10	83	93
Richland	1	7	4	12	600	612
Saluda	1	3	1	5	74	79
Spartanburg	1	4	4	9	295	304
Sumter	1	5	3	9	106	115
Union	1	3	1	5	153	158
Williamsburg	1	8	4	13	491	504
York	1	4	4	9	408	417
Totals	46	214	138	398	13,913	14,311

TABLE 2 — SUMMARY OF FORESTLAND FIRES BY MONTHS
July 1, 1981 — June 30, 1982

<i>Month</i>	<i>No. of Fires</i>	<i>Percent of Total Number</i>	<i>Area Burned (Acres)</i>	<i>Average Area Per Fire (Acres)</i>
July	198	3.1	1,181.7	6.0
August	40	0.6	111.0	2.8
September	267	4.1	716.7	2.7
October	832	12.9	2,185.7	2.6
November	826	12.8	3,090.7	3.7
December	656	10.2	3,570.8	5.4
January	406	6.3	1,428.0	3.5
February	583	9.0	3,462.6	5.9
March	1,350	20.9	6,778.1	5.0
April	797	12.3	4,653.1	5.8
May	424	6.6	1,512.2	3.6
June	80	1.2	178.2	2.2
Totals	6,459	100.0	28,868.8	4.5

TABLE 3 — FOREST LAND FIRES BY CAUSES (BY COUNTY) — FISCAL YEAR 1981-82

County	Lightning		Campfire		Smoking		Debris Burning		Incendinary		Equipment Use		Railroad		Children		Misc.		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	2	1.8	—	—	14	40.9	13	21.7	16	29.9	3	4.2	8	21.5	4	1.9	3	14.2	63	136.1
Aiken	9	68.5	7	32.7	17	15.1	49	138.9	146	435.8	22	75.7	6	10.3	19	11.6	21	119.0	296	907.6
Allendale	—	—	—	—	4	3.8	20	67.8	50	268.8	8	6.3	5	4.1	—	—	—	—	87	350.8
Anderson	—	—	1	1.0	35	90.0	7	17.9	11	24.9	9	17.2	1	1.0	6	8.0	4	5.2	74	165.2
Bamberg	2	4.0	—	—	3	4.0	31	58.2	39	100.0	4	4.2	—	—	1	1.7	2	1.0	82	173.1
Barnwell	2	35.0	1	1.0	18	51.8	29	149.0	16	98.6	9	19.9	3	35.5	1	.5	1	.4	80	391.7
Beaufort	1	51.9	—	—	2	2.5	34	270.3	58	214.8	—	—	—	—	2	5.0	1	30.0	98	574.5
Berkeley	—	—	—	—	5	3.6	45	129.1	325	1,349.8	—	—	3	2.5	5	2.2	6	10.2	389	1,497.4
Calhoun	1	.1	1	.4	20	43.6	22	48.1	5	14.0	6	6.0	2	6.6	2	7.6	6	5.6	65	132.0
Charleston	—	—	—	—	16	47.9	23	372.2	48	1,050.6	3	5.0	6	22.5	9	11.6	2	33.0	107	1,542.8
Cherokee	1	2.0	—	—	26	61.9	15	73.2	33	130.4	5	6.8	1	1.0	5	5.2	2	1.4	88	281.9
Chester	1	1.5	1	3.0	11	42.4	3	3.4	—	—	—	—	12	38.3	—	—	3	10.2	31	98.8
Chesterfield	10	93.0	4	9.3	34	206.4	37	92.5	34	112.4	9	27.9	6	15.0	5	5.7	9	38.4	148	600.6
Clarendon	—	—	3	10.8	29	114.3	53	250.1	235	1,499.6	8	40.1	—	—	4	11.2	4	39.0	336	1,965.1
Colleton	1	10.0	1	4.0	6	12.9	58	251.0	230	1,925.3	14	40.2	2	55.0	2	16.0	14	51.4	328	2,365.8
Darlington	—	—	1	1.0	9	27.5	49	124.6	29	146.6	15	18.3	4	4.5	16	18.6	11	17.2	134	358.3
Dillon	1	3.8	—	—	12	19.8	28	69.2	22	31.2	3	17.9	1	.2	6	1.5	3	16.2	76	159.8
Dorchester	—	—	1	25.0	15	87.5	17	94.0	47	295.6	3	5.0	—	—	5	10.0	3	13.0	91	530.1
Edgefield	—	—	—	—	15	73.3	15	21.1	15	8.0	10	9.3	—	—	3	4.1	4	8.8	62	124.6
Fairfield	2	75.1	1	.3	20	48.6	15	17.5	10	18.8	8	3.8	—	—	2	1.0	6	8.8	64	173.9
Florence	—	—	—	—	36	114.5	83	217.9	140	675.8	20	43.2	6	17.4	16	30.8	3	10.3	304	1,109.9
Georgetown	—	—	2	4.1	6	20.6	66	332.1	161	654.1	12	11.1	—	—	4	6.0	8	11.4	255	1,039.4
Greenville	—	—	1	.5	14	63.8	18	63.4	7	10.8	10	13.1	—	—	8	29.2	13	76.4	71	257.2
Greenwood	3	2.8	1	.3	20	137.9	17	9.2	8	20.6	5	1.9	17	57.6	8	8.4	13	8.7	92	247.4
Hampton	1	8.0	1	15.0	3	22.4	25	58.7	47	149.3	6	12.2	3	5.5	2	2.5	3	5.2	91	278.8
Horry	2	.2	2	.8	14	14.4	84	335.5	205	1,160.7	22	54.5	—	—	20	19.4	21	35.9	370	1,621.4
Jasper	1	243.0	1	10.0	7	41.1	35	249.7	155	1,097.3	2	3.1	6	52.5	6	3.4	13	138.2	226	1,838.3
Kershaw	14	76.3	1	3.0	18	91.9	36	106.2	35	144.5	8	21.3	3	9.8	5	3.5	5	22.1	125	478.6
Lancaster	—	—	—	—	18	29.7	17	104.7	10	66.7	4	3.0	—	—	5	2.7	6	55.2	60	262.0
Laurens	—	—	—	—	37	71.3	22	54.9	3	49.3	9	9.9	8	15.2	10	57.7	5	25.9	94	284.2
Lee	1	.5	—	—	5	21.1	27	182.8	30	236.4	7	30.8	—	—	4	5.3	5	14.9	79	491.8
Lexington	3	9.8	—	—	27	50.9	70	216.1	53	74.5	18	39.2	26	42.5	18	18.1	7	5.1	222	456.2
Marion	—	—	2	15.0	15	168.1	26	207.1	18	219.5	4	281.2	4	1.0	4	1.2	4	20.4	77	913.5
Marlboro	2	16.0	2	1.8	35	127.6	30	239.5	35	517.8	9	11.6	1	.2	15	13.1	3	6.5	132	934.1
McCormick	1	.1	—	—	9	19.9	12	25.7	14	27.0	3	.6	1	25.0	2	.2	6	43.5	48	142.0
Newberry	1	1.0	1	.2	10	13.4	8	16.5	5	1.1	2	2.2	5	5.4	2	1.1	4	5.4	38	46.3
Oconee	—	—	3	5.5	20	54.2	14	18.2	13	53.0	2	4.0	2	10.2	6	7.1	7	10.2	67	162.4
Orangeburg	—	—	2	1.3	37	68.4	143	515.1	173	750.8	11	31.8	3	9.1	6	25.2	2	3.4	377	1,405.1
Pickens	4	1.6	—	—	8	5.3	11	18.6	3	11.0	10	6.0	—	—	4	1.9	9	81.1	49	125.5
Richland	—	—	5	21.2	31	183.7	59	138.6	91	512.7	7	34.4	5	4.5	21	38.1	9	16.6	228	949.8
Saluda	1	165.0	—	—	11	21.6	5	4.7	1	.1	6	19.7	—	—	3	1.2	—	—	27	212.3
Spartanburg	2	6.0	—	—	10	45.0	13	60.0	10	53.0	—	—	2	7.0	4	11.0	4	25.0	45	207.0
Sumter	—	—	1	3.3	3	16.5	48	218.5	85	319.5	4	18.2	5	6.2	10	94.8	8	138.3	164	815.3
Union	6	29.0	3	9.5	8	34.5	3	8.0	1	.5	3	10.0	1	3.0	—	—	—	—	25	94.5
Williamsburg	—	—	3	3.2	7	3.3	117	489.4	282	1,323.3	18	38.0	—	—	3	3.5	3	5.6	433	1,866.3
York	—	—	3	11.4	10	19.0	19	18.9	1	2.0	8	18.7	2	3.4	9	19.9	5	6.1	57	99.4
TOTAL	75	906.0	56	194.6	730	2,457.9	1,571	6,179.8	2,955	15,886.4	349	1,027.5	160	493.5	292	528.7	271	1,194.4	6,459	28,868.8

TABLE 4 — FOREST LAND FIRES BY CLASS — FISCAL YEAR 1981-82

County	Class A		Class B		Class C		Class D		Class E		Class F		Class G		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	15	2.5	44	85.6	4	48.0	0	0.0	0	0.0	0	0.0	0	0.0	63	136.1
Aiken	100	14.1	179	356.5	16	409.0	1	128.0	0	0.0	0	0.0	0	0.0	296	907.6
Allendale	14	2.0	66	159.8	7	189.0	0	0.0	0	0.0	0	0.0	0	0.0	87	350.8
Anderson	2	0.3	65	125.4	7	39.5	0	0.0	0	0.0	0	0.0	0	0.0	74	165.2
Bamberg	10	1.9	66	119.2	6	52.0	0	0.0	0	0.0	0	0.0	0	0.0	82	173.1
Barnwell	9	1.5	59	125.2	12	265.0	0	0.0	0	0.0	0	0.0	0	0.0	80	391.7
Beaufort	6	0.9	79	206.3	12	263.3	1	104.0	0	0.0	0	0.0	0	0.0	98	574.5
Berkeley	59	6.0	292	670.6	37	620.8	1	200.0	0	0.0	0	0.0	0	0.0	389	1,497.4
Calhoun	17	2.3	44	94.7	4	35.0	0	0.0	0	0.0	0	0.0	0	0.0	65	132.0
Charleston	2	0.3	90	259.1	13	275.4	1	262.0	1	746.0	0	0.0	0	0.0	107	1,542.8
Cherokee	11	2.2	71	163.2	6	116.5	0	0.0	0	0.0	0	0.0	0	0.0	88	281.9
Chester	4	0.8	25	80.0	2	18.0	0	0.0	0	0.0	0	0.0	0	0.0	31	98.8
Chesterfield	30	4.7	101	212.6	17	383.3	0	0.0	0	0.0	0	0.0	0	0.0	148	600.6
Clarendon	66	7.7	206	556.6	64	1,400.8	0	0.0	0	0.0	0	0.0	0	0.0	336	1,965.1
Colleton	41	6.3	228	553.5	57	1,203.0	1	168.0	1	435.0	0	0.0	0	0.0	328	2,365.8
Darlington	25	4.0	104	194.3	5	160.0	0	0.0	0	0.0	0	0.0	0	0.0	134	358.3
Dillon	25	3.0	46	71.1	5	85.7	0	0.0	0	0.0	0	0.0	0	0.0	76	159.8
Dorchester	1	0.2	75	235.9	15	294.0	0	0.0	0	0.0	0	0.0	0	0.0	91	530.1
Edgefield	19	2.5	40	80.1	3	42.0	0	0.0	0	0.0	0	0.0	0	0.0	62	124.6
Fairfield	15	2.3	45	57.6	4	114.0	0	0.0	0	0.0	0	0.0	0	0.0	64	173.9
Florence	43	6.5	236	553.4	25	550.0	0	0.0	0	0.0	0	0.0	0	0.0	304	1,109.9
Georgetown	82	10.5	156	320.9	19	454.0	2	254.0	0	0.0	0	0.0	0	0.0	259	1,039.4
Greenville	3	0.3	61	126.4	7	130.5	0	0.0	0	0.0	0	0.0	0	0.0	71	257.2
Greenwood	45	6.3	42	61.1	4	72.0	1	108.0	0	0.0	0	0.0	0	0.0	92	247.4
Hampton	16	2.0	70	144.8	5	132.0	0	0.0	0	0.0	0	0.0	0	0.0	91	278.8
Horry	79	11.7	281	561.7	7	156.0	1	225.0	2	667.0	0	0.0	0	0.0	370	1,621.4
Jasper	32	4.2	144	376.1	49	1,215.0	1	243.0	0	0.0	0	0.0	0	0.0	226	1,838.3
Kershaw	32	4.9	79	153.7	13	200.0	1	120.0	0	0.0	0	0.0	0	0.0	125	478.6
Lancaster	16	2.7	39	69.0	5	190.3	0	0.0	0	0.0	0	0.0	0	0.0	60	262.0
Laurens	19	3.3	68	126.9	7	154.0	0	0.0	0	0.0	0	0.0	0	0.0	94	284.2
Lee	5	0.6	55	131.2	19	360.0	0	0.0	0	0.0	0	0.0	0	0.0	79	491.8
Lexington	84	10.7	134	280.5	4	165.0	0	0.0	0	0.0	0	0.0	0	0.0	222	456.2
Marion	26	3.8	40	103.7	9	414.0	2	392.0	0	0.0	0	0.0	0	0.0	77	913.5
Marlboro	26	3.5	87	190.1	14	255.5	5	485.0	0	0.0	0	0.0	0	0.0	132	934.1
McCormick	22	2.4	22	44.6	4	95.0	0	0.0	0	0.0	0	0.0	0	0.0	48	142.0
Newberry	15	2.4	23	141.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	38	46.3
Oconee	13	1.8	47	96.5	7	64.1	0	0.0	0	0.0	0	0.0	0	0.0	67	162.4
Orangeburg	63	8.5	282	644.1	30	442.5	2	310.0	0	0.0	0	0.0	0	0.0	377	1,405.1
Pickens	17	2.8	31	46.7	1	76.0	0	0.0	0	0.0	0	0.0	0	0.0	49	125.5
Richland	25	3.2	182	433.6	21	513.0	0	0.0	0	0.0	0	0.0	0	0.0	228	949.8
Saluda	9	1.0	14	26.3	3	20.0	1	165.0	0	0.0	0	0.0	0	0.0	27	212.3
Spartanburg	0	0.0	37	121.0	8	86.0	0	0.0	0	0.0	0	0.0	0	0.0	45	207.0
Sumter	13	2.0	130	284.3	20	409.0	1	120.0	0	0.0	0	0.0	0	0.0	164	815.3
Union	0	0.0	22	57.5	3	37.0	0	0.0	0	0.0	0	0.0	0	0.0	25	94.5
Williamsburg	113	13.2	279	669.1	39	949.0	2	235.0	0	0.0	0	0.0	0	0.0	433	1,866.3
York	15	2.2	38	71.2	4	26.0	0	0.0	0	0.0	0	0.0	0	0.0	57	99.4
TOTAL	1,284	176.0	4,524	10,145.6	623	13,180.2	24	3,519.0	4	1,848.0	0	0.0	0	0.0	6,459	28,868.8

TABLE 5 — FOREST LAND FIRES BY COUNTIES AND MONTHS — FISCAL YEAR 1981-82

County	July		August		September		October		November		December		January		February		March		April		May		June		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	7	8.0	3	1.6	6	8.8	13	20.6	8	11.2	6	12.0	4	9.7	4	12.9	5	19.4	4	21.1	3	10.8	—	—	63	136.1
Aiken	18	32.9	4	25.2	40	219.4	63	79.6	30	83.9	18	52.3	12	75.3	19	54.4	44	157.0	24	56.9	16	22.9	8	47.8	296	907.6
Allendale	2	6.1	—	—	3	1.6	10	45.9	8	47.0	9	17.8	21	66.3	9	28.9	19	124.4	1	.5	3	11.2	2	1.1	87	350.8
Anderson	5	9.1	3	8.0	5	6.7	6	27.8	8	11.4	8	19.8	8	20.5	9	19.5	10	24.0	7	12.9	5	5.5	—	—	74	165.2
Bamberg	2	2.4	1	.4	3	3.8	14	38.0	6	4.9	7	10.5	10	21.1	15	53.8	19	26.7	4	11.3	1	.2	—	—	82	173.1
Barnwell	—	—	1	10.0	2	5.8	5	13.0	10	16.1	8	24.0	15	90.4	10	107.5	16	31.4	6	39.5	6	52.4	1	1.6	80	391.7
Beaufort	2	52.9	—	—	—	—	5	8.6	4	22.0	17	81.5	18	56.1	17	100.1	24	219.5	4	7.3	6	23.5	1	3.0	98	574.5
Berkeley	1	2.0	—	—	8	6.8	37	103.5	41	87.8	61	197.0	28	68.2	51	417.7	114	476.8	39	118.4	7	18.1	2	1.1	389	1,497.4
Calhoun	2	3.7	1	.1	7	2.7	9	8.8	3	4.5	6	13.5	3	3.7	12	31.6	16	51.8	2	4.1	4	7.5	—	—	65	132.0
Charleston	—	—	—	—	3	6.0	2	9.0	9	36.0	13	301.6	6	16.0	21	180.5	35	920.9	8	38.7	9	32.1	1	2.0	107	1,542.8
Cherokee	3	1.3	1	.4	3	4.8	19	67.6	10	38.0	6	16.8	3	5.2	9	41.8	9	16.6	13	66.4	6	21.0	6	2.0	88	281.9
Chester	3	2.3	—	—	4	2.1	1	.4	8	25.8	3	12.5	—	—	2	3.2	8	40.5	—	—	2	12.0	—	—	31	98.8
Chesterfield	9	68.0	—	—	8	16.3	8	3.5	11	22.8	11	40.9	11	27.0	14	53.6	24	43.7	32	248.9	19	63.9	1	12.0	148	600.6
Clarendon	1	.1	—	—	12	84.7	49	373.2	36	348.8	23	141.9	17	116.7	29	45.2	90	503.1	64	340.7	11	8.4	4	2.3	336	1,965.1
Colleton	22	109.7	—	—	14	90.3	51	109.0	33	269.0	40	394.1	27	92.0	34	384.9	62	320.4	26	543.5	16	49.2	3	3.7	328	2,365.8
Darlington	1	.2	2	5.3	7	13.8	16	90.6	22	29.5	18	18.6	8	5.0	5	1.6	20	46.7	18	89.5	11	46.5	6	11.0	134	358.3
Dillon	1	.1	—	—	1	.1	10	47.8	14	11.8	8	29.0	2	.4	3	3.9	18	16.8	12	39.5	6	8.4	1	2.0	76	159.8
Dorchester	1	8.0	—	—	—	—	4	15.0	15	124.2	14	122.5	4	28.0	9	35.5	29	147.9	8	27.0	6	18.0	1	4.0	91	530.1
Edgefield	2	6.1	—	—	4	9.9	16	32.8	14	21.5	3	19.2	3	1.2	4	8.0	5	8.8	3	8.4	6	5.6	2	3.1	62	124.6
Fairfield	2	.5	—	—	4	1.9	18	17.2	8	35.6	4	2.5	2	2.6	3	2.6	5	8.4	11	21.7	7	80.9	—	—	64	173.9
Florence	4	1.0	1	1.5	7	21.1	41	137.5	56	206.6	41	196.7	3	8.7	12	17.1	63	223.3	47	228.0	29	68.4	—	—	304	1,109.9
Georgetown	7	6.0	—	—	3	1.2	13	8.6	47	54.9	21	364.9	2	3.0	16	31.9	73	411.6	65	135.5	11	21.5	1	.3	259	1,039.4
Greenville	—	—	1	4.9	4	6.6	13	20.9	13	75.2	4	4.0	2	3.0	7	58.3	7	33.5	11	39.7	9	11.1	—	—	71	257.2
Greenwood	8	14.1	2	1.7	11	23.2	22	26.2	6	7.9	6	7.9	3	1.1	4	108.3	8	1.8	12	46.4	7	4.5	3	4.3	92	247.4
Hampton	4	10.8	1	.2	1	4.5	10	18.3	8	8.9	10	24.3	12	50.7	14	98.6	25	47.1	—	—	6	15.4	—	—	91	278.8
Horry	5	26.0	—	—	11	5.1	44	46.2	85	135.6	36	42.7	8	23.5	22	26.1	59	133.1	67	881.3	30	300.7	3	1.1	370	1,621.6
Jasper	12	262.1	1	15.0	1	.8	6	68.3	15	50.9	18	194.9	48	275.2	33	247.0	58	488.5	23	156.5	11	79.1	—	—	226	1,838.3
Kershaw	12	9.6	—	—	7	9.2	20	40.1	7	47.2	11	157.9	6	24.5	8	29.0	18	44.3	21	56.3	12	57.4	3	3.1	125	478.6
Lancaster	7	7.9	—	—	1	1.5	11	10.3	5	7.1	8	14.2	—	—	3	36.5	11	56.9	12	76.6	2	51.0	—	—	60	262.0
Laurens	7	17.0	3	22.5	2	.6	11	13.6	12	81.3	11	31.0	6	9.3	9	13.2	10	41.4	16	42.9	3	4.0	4	7.4	94	284.2
Lee	1	3.0	1	.3	5	9.3	17	45.4	18	112.6	11	109.1	2	.6	5	93.0	7	33.9	4	34.5	4	28.6	4	21.5	79	491.8
Lexington	9	7.8	4	.7	6	3.9	25	20.5	20	11.3	25	45.6	13	11.6	19	115.0	49	141.9	24	48.1	25	42.8	3	7.0	222	456.2
Marion	1	91.0	—	—	6	3.2	13	136.7	14	34.5	6	70.6	3	25.0	5	5.6	8	301.0	12	216.1	9	29.8	—	—	77	913.5
Marlboro	4	18.6	—	—	2	1.4	17	17.3	13	15.1	12	38.1	9	35.1	10	216.3	33	313.7	23	266.1	8	12.0	1	.4	132	934.1
McCormick	2	.5	—	—	4	.4	10	40.3	10	20.1	—	—	2	.2	4	11.6	10	3.7	3	43.1	3	22.1	—	—	48	142.0
Newberry	4	5.7	—	—	—	—	9	12.0	2	.6	2	.4	3	5.7	5	6.7	8	10.4	3	4.6	2	.2	—	—	38	46.3
Oconee	1	12.0	6	9.9	7	21.6	12	27.7	9	21.0	4	5.6	6	14.2	—	9	21.1	8	24.7	5	4.6	—	—	67	162.4	
Orangeburg	3	163.7	1	.2	13	66.2	48	95.9	45	244.2	46	110.1	30	95.5	43	84.6	89	358.6	31	114.9	21	59.6	7	11.6	377	1,405.1
Pickens	4	2.5	—	—	3	.7	8	11.6	10	10.2	4	5.2	2	1.7	2	83.0	4	2.3	7	5.3	5	3.0	—	—	49	125.5
Richland	8	14.4	2	2.1	17	20.3	26	29.5	39	142.8	21	191.9	7	13.0	31	265.5	34	146.7	19	49.8	20	68.2	4	5.6	228	949.8
Saluda	2	165.1	—	—	3	4.5	4	7.5	7	7.4	3	4.4	2	2.1	2	15.1	2	1.1	1	5.0	1	.1	—	—	27	212.3
Spartanburg	2	11.0	1	1.0	2	2.0	6	21.0	3	16.0	3	27.0	2	30.0	7	25.0	6	25.0	6	21.0	6	16.0	1	12.0	45	207.0
Sumter	2	7.4	—	—	2	1.0	33	96.1	24	154.8	23	171.3	12	44.8	11	115.0	33	155.2	14	39.7	8	25.5	2	4.5	164	815.3
Union	1	7.0	—	—	3	7.0	7	27.0	—	—	2	9.0	2	19.0	—	4	9.0	5	14.5	1	2.0	—	—	25	94.5	
Williamsburg	2	3.0	—	—	10	15.3	44	89.1	48	344.2	44	215.6	16	24.2	28	164.6	137	545.7	71	383.3	30	80.2	3	1.1	433	1,866.3
York	2	1.1	—	—	2	.6	6	6.2	12	28.5	1	.4	3	.9	4	8.4	13	22.5	6	22.9	6	6.3	2	1.6	57	99.4
TOTAL	198	1,181.7	40	111.0	267	716.7	832	2,185.7	826	3,090.7	656	3,570.8	406	1,428.0	583	3,462.6	1,350	6,778.1	797	4,653.1	424	1,512.2	80	178.2	6,459	28,868.8

TABLE 6 — FOREST LAND FIRES
Fiscal Year 1981-82

<i>Causes</i>	<i>Number of Fires</i>	<i>Percent of Total Number</i>	<i>Area Burned (Acres)</i>	<i>Average Area Per Fire (Acres)</i>
Lightning	75	1.16	906.0	12.0
Campfire	56	.86	194.6	3.4
Smoking	730	11.30	2,457.9	3.3
Debris Burning	1,571	24.32	6,179.8	3.9
Incendiary	2,955	45.75	15,886.4	5.3
Equipment Use	349	5.40	1,027.5	2.9
Railroad	160	2.47	493.5	3.0
Children	292	4.52	528.7	1.8
Miscellaneous	271	4.19	1,194.4	4.4
TOTALS	6,459	100.00	28,868.8	4.5

TABLE 7 — CAUSES OF FIRES — FIVE YEAR PERIOD
(Percent of Total)

<i>Causes</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>	<i>1981-82</i>
Lightning	1.8	0.7	1.0	1.2	1.0
Campfire	0.7	0.6	0.8	0.5	0.8
Smoking	12.2	14.0	14.8	9.9	12.6
Debris Burning	29.9	29.0	25.6	21.0	25.0
Incendiary	38.8	38.0	34.4	51.6	42.4
Equipment Use	3.0	3.5	5.5	3.4	6.3
Railroad	4.4	3.5	5.0	4.0	3.0
Children	6.2	7.3	8.7	4.9	4.7
Miscellaneous	3.1	3.3	4.2	3.5	4.2

**TABLE 8 — FORESTLAND FIRES REPORTED
IN SOUTH CAROLINA
Fiscal Year 1981-82**

<i>Unit</i>	<i>Area Protected (Acres)</i>	<i>Number of Fires</i>	<i>Area Burned (Acres)</i>	<i>Percent of Area Burned</i>	<i>Average Area Per Fire (Acres)</i>
Abbeville	205,619	63	136.1	.07	2.1
Aiken	433,387	296	907.6	.21	3.0
Allendale	156,223	87	350.8	.22	4.0
Anderson	227,594	74	165.2	.07	2.2
Bamberg	149,603	82	173.1	.12	2.1
Barnwell	123,617	80	391.7	.32	4.9
Beaufort	153,166	98	574.5	.37	5.8
Berkeley	391,789	389	1,497.4	.38	3.8
Calhoun	134,105	65	132.0	.10	2.0
Charleston	262,798	107	1,542.8	.59	14.4
Cherokee	162,976	88	281.9	.17	3.2
Chester	283,949	31	98.8	.03	3.1
Chesterfield	355,398	148	600.6	.17	4.0
Clarendon	217,876	336	1,965.1	.90	5.8
Colleton	479,853	328	2,365.8	.49	7.2
Darlington	171,141	134	358.3	.21	2.6
Dillon	145,574	76	159.8	.11	2.1
Dorchester	273,472	91	530.1	.19	5.8
Edgefield	208,660	62	124.6	.06	2.0
Fairfield	378,650	64	173.9	.05	2.7
Florence	291,159	304	1,109.9	.38	3.6
Georgetown	381,198	259	1,039.4	.27	4.0
Greenville	315,925	71	257.2	.08	3.6
Greenwood	201,795	92	247.4	.12	2.6
Hampton	247,779	91	278.8	.11	3.0
Horry	496,547	370	1,621.4	.33	4.3
Jasper	317,032	226	1,838.3	.58	8.1
Kershaw	403,461	125	478.6	.12	3.8
Lancaster	242,709	60	262.0	.11	4.3
Laurens	294,516	94	284.2	.10	3.0
Lee	122,845	79	491.8	.40	6.2
Lexington	284,158	222	456.2	.16	2.0
Marion	217,136	77	913.5	.42	11.8
Marlboro	175,333	132	934.1	.53	7.0
McCormick	134,484	48	142.0	.11	2.9
Newberry	262,111	38	46.3	.02	1.2
Oconee	215,041	67	162.4	.07	2.4
Orangeburg	376,278	377	1,405.1	.37	3.7
Pickens	228,839	49	125.5	.05	2.5
Richland	288,854	228	949.8	.33	4.1
Saluda	194,122	27	212.3	.11	7.8
Spartanburg	292,516	45	207.0	.07	4.6
Sumter	240,153	164	815.3	.34	4.9
Union	220,583	25	94.5	.04	3.7
Williamsburg	392,392	433	1,866.3	.48	4.3
York	278,674	57	99.4	.04	1.7
Total	12,031,090	6,459	28,868.8	.24	4.5

**TABLE 9 — FIVE YEAR SUMMARY
FOREST FIRE STATISTICS**

<i>Fiscal Year</i>	<i>Total Area Protected (Acres)</i>	<i>No. of Fires</i>	<i>Area Burned (Acres)</i>	<i>Percent of Area Burned</i>	<i>Average Area Per Fire (Acres)</i>
1977-78	12,050,000	6,836	30,536.4	.25	4.5
1978-79	12,050,000	7,018	23,894.6	.20	3.4
1979-80	12,050,000	4,293	14,483.2	.13	3.6
1980-81	12,031,090*	14,405	94,909.0	.79	6.6
1981-82	12,031,090	7,334	32,709.6	.27	4.5
Five Year Average	12,042,436	7,977	39,306.6	.33	4.9

* Acreage of Total Area Protected was changed to 12,031,090 acres in Fiscal Year 1980-81.

**TABLE 10
STATE SUMMARY
LAW ENFORCEMENT INFORMATION
Fiscal Year 1981-82**

	<i>Camden</i>	<i>Florence</i>	<i>Kingstree</i>	<i>Newberry</i>	<i>Orangeburg</i>	<i>Spartanburg</i>	<i>Walterboro</i>	<i>State Totals</i>
PART A. NO. OF VIOLATIONS								
1. Willful and Malicious	16	2	39	18	29	17	4	125
2. Intentional	282	465	1,000	66	490	82	679	3,064
3. Careless and Negligent	349	354	348	264	525	304	295	2,439
4. Other Violations	1	2	—	—	—	1	—	4
5. Total Violations (1-4)	648	823	1,387	348	1,044	404	978	5,632
6. Notification Violation	30	13	18	6	27	7	20	121
7. Total All Violations (5 & 6)	678	836	1,405	354	1,071	411	998	5,753
8. No Fire Law Violations	199	398	68	309	276	195	136	1,581
PART B. NUMBER OF PROSECUTIONS								
1. Willful and Malicious	—	—	—	—	—	1	—	1
2. Intentional	—	—	—	—	—	—	2	2
3. Careless and Negligent	10	12	2	6	6	5	2	43
4. Notification Law	6	8	2	6	—	1	1	24
5. Other Violations	—	—	—	—	—	—	—	—
6. Total	16	20	4	12	6	7	5	70
PART C. NUMBER OF CONVICTIONS								
1. Willful and Malicious	—	—	—	—	—	1	—	1
2. Intentional	—	—	—	—	—	—	2	2
3. Careless and Negligent	10	10	2	5	4	4	2	37
4. Notification Law	6	7	1	5	—	1	1	21
5. Other Violations	—	—	—	—	—	—	—	—
6. Total	16	17	3	10	4	6	5	61

TABLE 11
ANNUAL BURNING NOTIFICATION SUMMARY
South Carolina Forestry Commission
Fiscal Year 1981-82

<i>County</i>	<i>Number Notifications Received</i>	<i>Number Fires Escaped</i>	<i>Number Technical Violations</i>	<i>Number Prosecutions</i>	<i>Number Convictions</i>
Abbeville	676	3	1	1	1
Aiken	6,179	9	8	—	—
Allendale	284	3	—	—	—
Anderson	798	2	—	—	—
Bamberg	573	8	15	1	—
Barnwell	1,483	21	2	1	—
Beaufort	2,243	12	19	—	—
Berkeley	2,010	5	5	—	—
Calhoun	460	17	15	—	—
Charleston	1,809	4	—	—	—
Cherokee	502	2	1	—	—
Chester	297	—	—	—	—
Chesterfield	1,564	8	5	1	1
Clarendon	1,224	8	—	4	3
Colleton	3,479	27	6	2	2
Darlington	474	4	—	—	—
Dillon	463	2	—	—	—
Dorchester	938	4	—	—	—
Edgefield	339	—	—	—	—
Fairfield	1,560	14	1	—	—
Florence	971	1	—	—	—
Georgetown	1,673	21	11	4	4
Greenville	3,195	1	8	—	—
Greenwood	1,334	2	—	—	—
Hampton	1,911	20	1	2	2
Horry	1,242	5	4	5	5
Jasper	1,159	7	—	—	—
Kershaw	2,967	2	—	2	2
Lancaster	589	3	25	—	—
Laurens	498	4	17	—	—
Lee	310	9	59	—	—
Lexington	6,426	14	2	—	—
Marion	587	1	—	—	—
Marlboro	697	2	—	—	—
McCormick	157	2	—	—	—
Newberry	715	—	—	—	—
Oconee	1,812	2	—	1	1
Orangeburg	1,369	21	12	—	—
Pickens	663	3	—	—	—
Richland	728	—	—	—	—
Saluda	278	5	—	—	—
Spartanburg	803	—	12	—	—
Sumter	1,225	30	—	—	—
Union	252	3	1	—	—
Williamsburg	1,347	30	—	—	—
York	2,165	9	—	—	—
Totals	62,428	350	230	24	21

TABLE 12 — NON-FOREST LAND FIRES BY CAUSES

(By District)

Fiscal Year: 1981-82

Causes	Camden		Florence		Kingstree		Newberry		Orangeburg		Spartanburg		Walterboro		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Lightning	1	.1									2	5.0			3	5.1
Campfire	1	1.0					1	5.0	1	1.5	3	10.2	2	2.0	8	19.7
Smoking	20	83.3	53	91.9	18	12.1	45	60.5	47	164.1	47	209.2	16	62.8	246	683.9
Debris burning	58	202.9	54	263.1	18	149.2	41	55.7	66	223.7	50	117.4	73	306.9	360	1318.9
Incendary	34	74.3	24	62.6	46	155.1	16	5.3	44	197.7	26	66.5	142	490.6	332	1052.1
Equipment Use	16	76.1	22	27.2	4	4.1	27	35.9	37	40.9	27	169.0	6	6.2	139	359.4
Railroad	2	1.5	13	10.2	1	.1	36	14.3	5	3.8	6	22.1	9	3.2	72	55.2
Children	4	31.5	30	31.0	2	13.0	4	3.3	8	34.3	9	20.2	16	25.5	73	158.8
Miscellaneous	9	70.8	6	4.5	2	1.1	13	16.0	8	4.2	13	35.1	6	56.0	57	187.7
Total	145	541.5	202	490.5	91	334.7	183	196.0	216	670.2	183	654.7	270	953.2	1290	3840.8

TABLE 13 — NON-FOREST LAND FIRES BY CAUSES

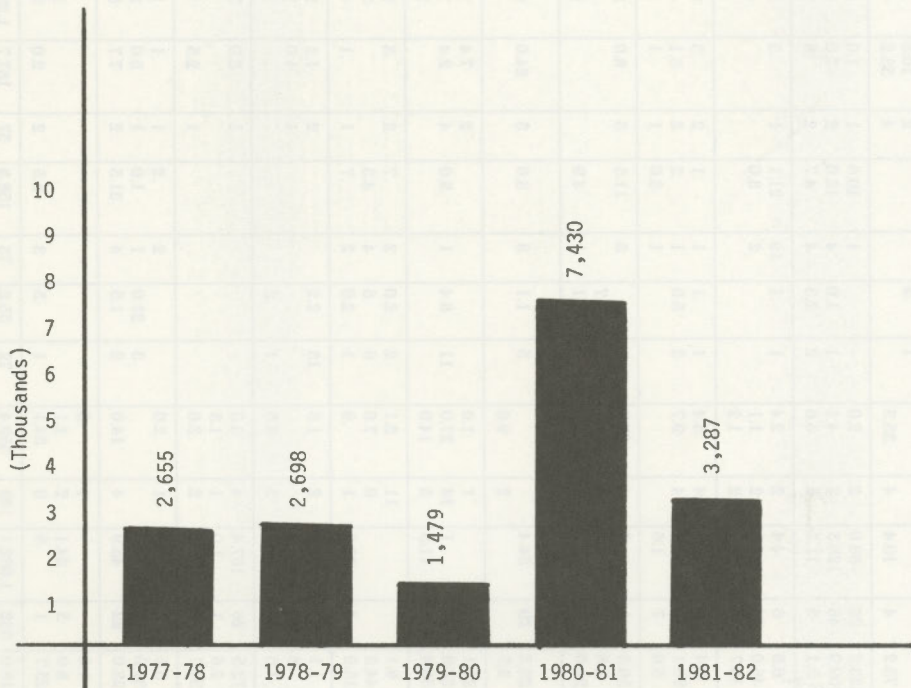
(By County)

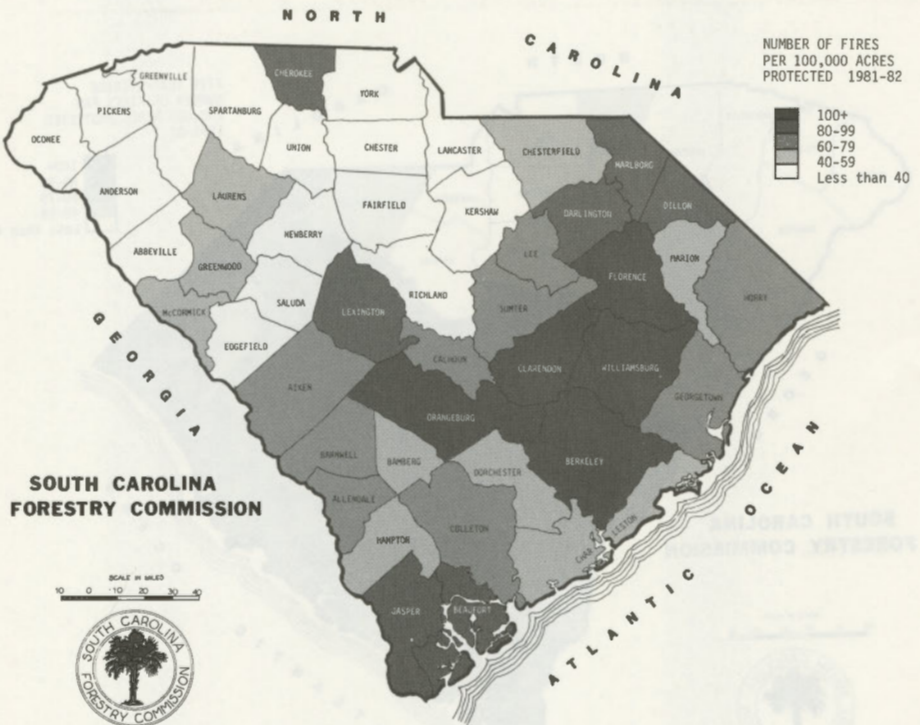
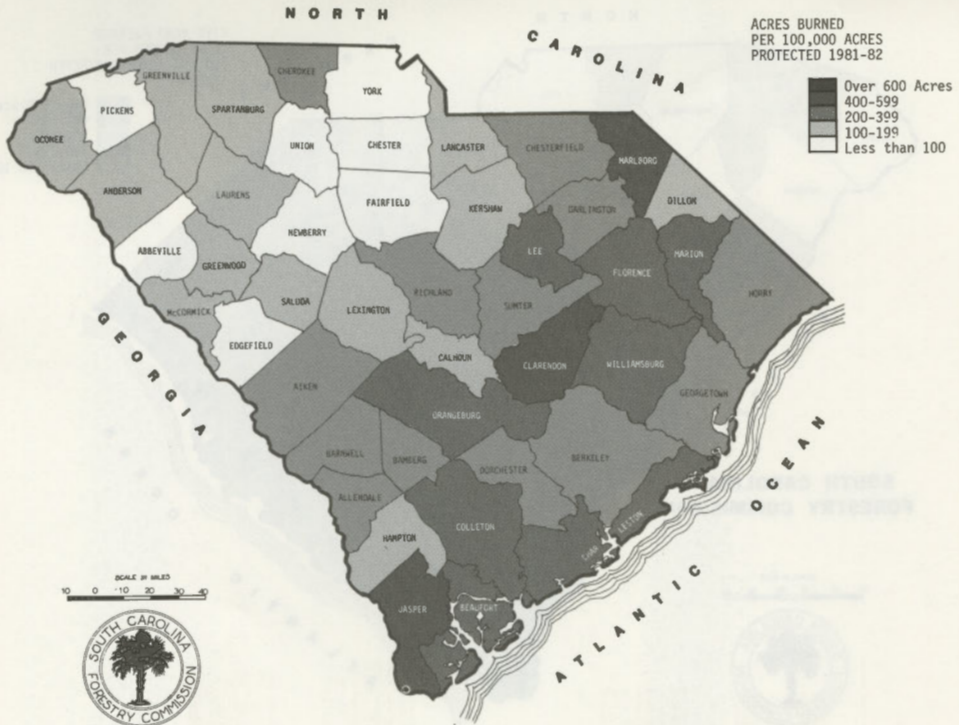
Fiscal Year: 1981-82

County	Lightning		Campfire		Smoking		Debris Burning		Incendary		Equipment Use		Railroad		Children		Misc.		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville					4	3.9	2	3.5	1	1.0			3	2.4			1	.6	11	11.4
Aiken					6	54.2	14	85.9	10	16.9	11	11.6	1	1.0	5	30.6	4	.8	51	201.0
Allendale							2	.5	1	1.0	5	.6	1	.3					9	2.4
Anderson					9	74.4	1	1.0	4	15.5	3	25.0					3	17.5	20	133.4
Bamberg					1	8.0	5	10.4	4	12.0	2	20.0							12	50.4
Barnwell						5	17.7	7	26.8			3	3.2	1	.5				16	48.2
Beaufort					1	5.0	23	98.8	28	184.5					1	2.0	1	25.0	54	315.3
Berkeley							2	3.0	12	40.4			1	.1					15	43.5

Calhoun					6	18.3	8	18.5	3	.4	1	.1			1	3.0	1	.1	20	40.4
Charleston							3	5.0	4	7.7									7	12.7
Cherokee					16	47.5	9	10.0	16	37.8	6	32.4	1	.4	2	2.2	4	4.6	54	134.9
Chester			1	5.0	1	.3							1				4	10.5	5	16.3
Chesterfield	1	.1	1	1.0	8	67.3	20	73.2	4	10.4	4	35.5	1	.5			2	53.2	42	240.7
Clarendon					16	11.9	10	133.2	22	89.0	2	2.0			1	10.0	1	1.0	52	247.1
Colleton			1	1.0	2	3.0	22	109.9	46	128.3	3	4.1	1	1.0	4	12.0	2	7.0	81	266.3
Darlington					1	4.0	6	5.1	3	11.5	6	6.6	2	2.5	4	4.7	2	.8	24	35.2
Dillon					17	7.0	6	6.8	6	4.4	2	2.4	1	.1	19	21.1	1	.5	52	42.3
Dorchester					9	49.0	7	46.0	23	112.3	2	1.1			2	3.0			43	211.4
Edgefield					1	7.0	5	10.7			2	1.2							8	12.9
Fairfield					3	.3	7	8.4	2	1.1	4	3.4	1	.1	1	.1	2	.3	20	13.7
Florence					12	25.5	14	93.1	11	24.4	4	9.7	3	5.0	1	.2	2	3.1	47	161.0
Georgetown					1	.1	4	5.0	7	1.6					1	3.0	1	.1	14	9.8
Greenville	1	3.0			3	5.1	13	36.5	1	.2	4	67.0			3	11.5	3	6.0	28	129.3
Greenwood					4	1.8	2	2.8	1	.1	4	.7	5	.7					16	6.1
Hampton					1	1.5	4	24.0	12	3.4	1	1.0	3	1.1	1	4.9			22	35.9
Horry																				
Jasper			1	1.0	3	4.3	14	23.2	29	54.4			5	1.1	8	3.6	3	24.0	63	111.6
Kershaw					1	1.0	2	2.5			2	9.0							5	12.5
Lancaster					1	.2	6	21.1			1	1.0					2	7.4	10	29.7
Laurens					25	29.3	16	24.9	1	.1	14	27.0	11	8.4	1	3.0	4	2.4	72	95.1
Lee					2	1.3	6	38.4	4	11.5	3	14.0							15	65.2
Lexington					6	4.4	11	9.1			11	2.1	2	2.0	2	.7	2	.3	34	18.6
Marion					4	10.7	16	44.2			9	7.6	6	.6	4	4.3			39	67.4
Marlboro					19	44.7	12	113.9	4	22.3	1	.9	1	2.0	2	.7	1	.1	40	184.6
McCormick					1	.1	2	1.1	1	2.0	2	1.6	15	2.2			2	1.1	23	8.1
Newberry					2	3.2	4	.8	9	.9							1	1.0	16	5.9
Oconee					7	47.4	3	1.6	2	1.2	3	8.5	1	.2					16	58.9
Orangeburg			1	1.5	23	61.5	19	72.5	26	167.4	4	3.3					1	3.0	74	309.2
Pickens							3	2.6	1	1.0	1	1.5							5	5.1
Richland					4	10.4	6	39.7	4	6.5	2	2.6					1	2.5	17	61.7
Saluda					4	20.6	3	3.5	1	.1	1	2.0			2	.2	1	.1	12	26.5
Spartanburg					7	22.0	7	39.0	1	10.0			3	21.0	1	1.0	1	5.0	20	98.0
Sumter					4	3.1	18	28.0	22	45.9	4	14.0	2	1.5	4	31.5	2	7.7	56	131.7
Union	1	2.0	2	9.0	1	5.0	1	1.0			1	.5							6	17.5
Williamsburg					1	.1	2	8.0	5	24.1	2	2.1							10	34.3
York			1	1.2	4	7.8	13	25.7	1	.8	9	34.1	1	.5	3	5.5	2	2.0	34	77.6
Total	3	5.1	8	19.7	246	683.9	360	1,318.9	332	1,052.1	139	359.4	72	55.2	73	158.8	57	187.7	1,290	3,840.8

FIVE YEAR COMPARISON OF INCENDIARY FIRES

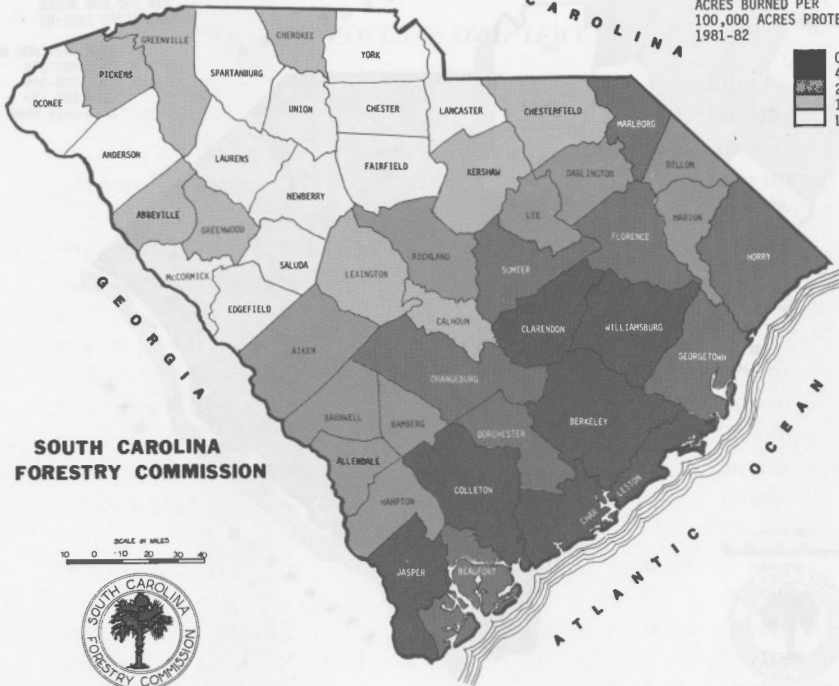
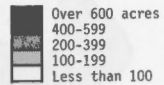




NORTH

CAROLINA

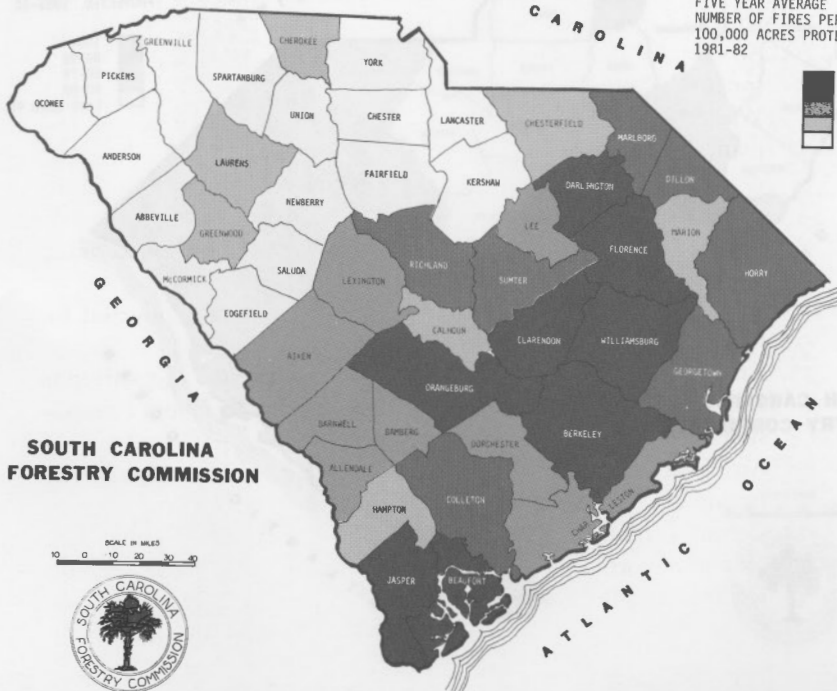
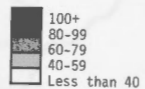
FIVE YEAR AVERAGE
ACRES BURNED PER
100,000 ACRES PROTECTED
1981-82



NORTH

CAROLINA

FIVE YEAR AVERAGE
NUMBER OF FIRES PER
100,000 ACRES PROTECTED
1981-82



TRAINING SECTION

The Training Section plans, coordinates and evaluates the Forestry Commission training in all subject areas.

Each year a training schedule is prepared in cooperation with all program managers. This helps to set priorities and to ensure that needed training is scheduled, planned and given in a logical order.

Standard training programs have been prepared, or are being prepared, for new employees in all job areas. These programs will ensure that all subjects are covered in a logical order and will help the new employee reach the standards for the assigned job as soon as practical. Programs are in use for foresters, district rangers, county rangers, fire tower operators, wardens, mechanics, radio technicians, forest tree nursery secretaries and Columbia Office secretaries/clerks. Programs for other jobs will be prepared and existing programs updated on a regular basis.

A training library including manuals, films, tapes, slides, lesson plans, etc., is maintained.

Most training is done "in-house" using Forestry Commission personnel as instructors. "Outside" schools and instructors are utilized when possible. These "outside" sources include the U. S. Forest Service, Clemson University, South Carolina State Personnel Training Division, industry representatives and others.

Training highlights for 1981-82 include the following.

1. A three day "Basic Fire Fighting School" was held for all new fire wardens, rangers and foresters. This school was also conducted as refresher training for all fire fighting personnel in Walterboro and Kingstree Districts.
2. A two day "Basic Fire Fighting School for Cooperators" was held for forest industry personnel in Florence District.
3. Western Fire Team Training was conducted for eight new fire team volunteers.
4. A "Prescribed Burning School" was conducted for twenty-nine personnel.
5. Four days of maintenance and preventive maintenance training was conducted for mechanics.
6. A training session on "Employee Relations" was conducted for field supervisors.
7. An annual "Law Enforcement In-Service Program" was started in 1981-82 with sixty personnel that hold law enforcement commission receiving 12 hours of instruction.
8. An "Instructor Training Course" was conducted for twenty-two personnel.
9. Columbia Staff received training in three areas. These were "Letter and Report Writing," "Small Group Leadership," and "Instructor Training Refresher."

10. A rural fire department training program was conducted by Forestry Commission personnel for thirty-one fire departments with 622 individuals receiving certificates.
11. A \$5,000 training grant from the U. S. Forest Service enabled eleven people to receive training in the staff development area.

INSECT AND DISEASE

Forest Insect and Disease Control Activities

The Forestry Commission cooperates with the State Plant Pest Regulatory Service and the U. S. Forest Service, Division of Forest Pest Management in a program to detect, evaluate, and suppress forest pests. Cooperative agreements with these two agencies make their technical assistance and advice available to the Commission of Forestry.

The current forest pest detection and reporting system involves the reporting by field foresters of forest pests that are causing abnormal losses, require control action, or which may present new problems. Aerial surveys are made periodically of specific pests to determine occurrence and the need for suppression action.

The southern pine beetle outbreak which began in July 1979 ended in September of 1981. Periodic surveys since then have revealed no new southern pine beetle spots in the state.

During December and January, all Commission nurseries were surveyed for mycorrhizal development and possible diseases. Most seedlings had above average mycorrhizal development and good root systems.

During the Winter of 1981, the I&D Section was asked for assistance in evaluating a potential Fall Cankerworm outbreak in Georgetown County. Surveys revealed a high population of these defoliators and 423 acres of residential area were designated for a control project. On April 1st the area was aerially sprayed with Orthene and the insects were controlled.

The Forest Tent Caterpillar also defoliated extensive areas in 16 coastal counties during the spring. These areas will be surveyed this winter to see if control projects are warranted for next spring.

In early March, unusual mortality was noted in the coastal loblolly section of Creech Seed Orchard. Subsequent surveys by S. C. Forestry Commission, U. S. Forest Service, and VPI & SU pathologists showed this to be caused by annosus root rot. Apparently the disease was introduced into the seed orchard as a result of subsoiling and insecticide application with a power till seeder. Approximately 1% of the seed trees in the orchard have died from annosus while possibly 5% are infected to some degree. Because of quick evaluation and action against the disease it is unlikely that we will lose many more trees.

Oak wilt disease is known to occur in Chesterfield, Kershaw, Lancaster, Lee and Richland Counties. It appears to be spreading very slowly and causing losses only to low value scrub oaks. Since there is potential for loss

in valuable trees such as shade trees, periodic surveys are made to keep up with the spread.

Dutch elm disease has been confirmed in Aiken, Anderson, Chester, Chesterfield, Edgefield, Fairfield, Greenville, Greenwood, Lancaster, Laurens, Lexington, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg and York Counties. It probably occurs in the other piedmont counties and is expected to gradually spread throughout the state. The primary agent of spread, the smaller European elm bark beetle, occurs statewide.

Commission foresters made approximately 1,930 field checks of insect and disease problems. Appropriate recommendations for prevention and control were given in each case. Numerous inquiries were handled by telephone, mail, and personal contact that did not require field checking.

Twenty-one piedmont and 10 coastal counties were aerially photographed on color infrared film for use in forest insect and disease control programs. A side benefit of this project will be the procurement of stereoscopic color IR coverage for the foresters in these counties to use in their management work.

The office portion of our new laboratory/office complex was completed in June of 1982. By September the insect and disease section will be able to provide laboratory diagnostic services for all forest insect and disease problems.

INFORMATION AND EDUCATION

Introduction

South Carolina's 12.5 million acres of forest land provide an annual return of approximately 2.5 billion dollars in growing, harvesting, manufacturing, transporting and sale of forest products.

The needs of our ever-increasing population demand that each forest acre produce the maximum amount of usable wood, protect soil and water supplies, and provide for the recreational needs of the citizens of the state. Projections indicate that, while the South is now supplying 35% of the nation's softwood needs, by the year 2030, it will be expected to produce more than 50%.

Every Forestry Commission employee participates in an education program designed to reach every South Carolinian. Through various means citizens are made aware of their responsibilities to conserve our natural resources so that present and future generations may use and enjoy them to their fullest.

Supporting the state's third largest manufacturing industry, our forests provide a livelihood for thousands of people. Yet the state's woodlands are producing only half of their potential. The aim of the Commission's information and education program is to help the landowners and people of the state realize the potential value of our woodlands and apply the necessary conservation practices that can double timber production.

The 1978 Forest Survey points to the need for heavy emphasis on improvement of practices on farm and other non-industrial or government-owned woodlands. These lands constitute two-thirds of the commercial forest land of the state but are producing far less than their share of usable wood and wood fiber. Increased production here will serve as the key to meeting the expected demands.

Points stressed in the Commission's information and education efforts in promoting wise land use are:

1. Forest fire protection: Some 6,459 (only 75 caused by lightning) illegal woods fires burned during the year in South Carolina — 99 percent being caused by people!
2. Unwise cutting practices mean low production and inferior forest products.
3. Trees should be planted on some three million acres of idle or unproductive land.
4. Improve the quality of many existing stands of timber throughout the state by removing inferior species and poor quality trees and promoting active interest in a program of superior tree development through genetics.
5. Stress the vital importance of woodlands and good land management practices to the maintenance of good soil, water, and wildlife resources of the state.

6. Develop appreciation in the use, protection, and support of South Carolina's great recreational potential that exists in public and private woodlands to serve the recreational needs of the people of the state.

Forest Fire Prevention

In the Commission's 1929 Annual Report, Lewis E. Staley, then State Forester said, "While light burning may not kill the larger trees, unquestionably the basis for the future forests — the baby trees — are practically all destroyed. This is an indisputable fact." To this day, it is upon this "indisputable fact," that even little fires kill little trees, that the primary approach of the Commission to forest fire prevention is based. Through a program beginning with personal contacts, the need for preventing wildfires is brought to the attention of every man, woman, and child in the state. Forestry Commission personnel also utilize other media of communication such as posters, exhibits, publications, illustrated talks, newspaper articles and radio and television programs to bring the conservation message to each citizen of the state. During the year some 928 programs of various kinds were presented by Commission personnel to over 27,248 people of all ages. The number of television and radio programs is included; however, the number of viewers or listeners cannot be determined.

Cooperative Forest Fire Prevention Campaign

The Cooperative Forest Fire Prevention Campaign supplements local materials and programs with those produced in cooperation with the federal government and other states. It reinforces local efforts to reach, in one way or another, every man, woman, and child within the state. This national program, featuring Smokey Bear, is guided by the Advertising Council, Inc., in cooperation with the State Foresters and the U. S. Forest Service. The program is backed by American business as a public service campaign. The advertising agency, Foote, Cone and Belding, of Los Angeles, California volunteers time and services to prepare materials to make the Cooperative Forest Fire Prevention Campaign one of the nation's most outstanding public service campaigns. Smokey Bear's campaign in South Carolina utilizes a wide variety of materials including posters, booklets, bookmarks, newspaper ads, radio platters, TV films, and other material to bring forest fire prevention information and reminders to people of all ages.

A number of products licensed to use the Smokey Bear symbol, and carrying a forest fire prevention message, provide additional ways of reaching people with fire prevention reminders.

Southern Cooperative Forest Fire Prevention Campaign

Recognizing the need for a more southern slant than the national campaign can provide, twelve states and the U. S. Forest Service in the South have continued to cooperate in the production of forest fire prevention materials with a southern flavor. The twenty year's operation of the southern program saw continued production of recorded radio spots, a series of TV spots, and news ads which are currently being distributed. The southern materials supplement the national materials to intensify and strengthen forest fire prevention efforts in South Carolina. Produced by the advertising agency, Liller, Neal Welton, Inc. of Atlanta, Georgia, it is coordinated through The Advertising Council, Inc.

School Program

School children throughout the state receive basic information on forestry and forest fire prevention from Forestry Commission foresters, rangers, and wardens. Some 322 programs were held in the elementary grades, where schoolyard demonstrations of fire control equipment and suppression techniques, flip charts and color slides were used to help bring the conservation story to the classroom; 14,108 school children were given basic information about the conservation of our forest resources. This includes Arbor Day demonstrations and slide programs which were held in vocational agriculture classes in each county.

In addition to the slide programs and demonstrations, third grade children throughout the state received copies of the booklet "Smokey Bear's Story of the Forest" and copies of a Smokey Bear coloring sheet. An equal number of first grade students received Smokey Bear coloring sheets with forest fire prevention and conservation messages. Second grade students received a 12-inch rule which carries the metric scale as well. Fourth graders received a schoolyard or classroom demonstration of basic forest fire suppression methods and tools and a booklet "The Junior Forest Ranger Handbook." Fifth graders received copies of a booklet "Our Woodland World."

Movies on forest conservation and forest industries were also shown in schools, bringing conservation information to students of all grade levels.

The Commission's school programs are designed to add to each child's understanding of the total stewardship of life, building toward a stronger and more appreciative community of the future. The programs give basic information to children on the value of woodlands and the care needed to make them produce and contribute to a prosperous future.

Forestry Demonstrations

During the year 11,924 persons attended 104 demonstrations conducted by personnel of the Forestry Commission. These demonstrations covered forest fire protection, correct cutting methods, utilization of

forest products, reforestation, control of undesirable species, and timber stand improvement.

In most cases demonstrations were held in cooperation with foresters of various companies, the Clemson University Extension Service, and other groups and organizations.

Arbor Day

Arbor Day 1981 marked the beginning of a special cooperative effort launched by the Forestry Commission and Clemson Extension Service to promote the idea of planting trees for the future.

A new pamphlet was designed for distribution to schools, garden clubs, and civic groups. The pamphlet stresses the history of Arbor Day and the correct way to plant a tree. Additional new material included a poster, a thirty second public service announcement for television, and a lesson plan for teachers to use during Conservation Week.

Forestry Commission personnel throughout the state planned and participated in numerous Arbor Day programs. Through the efforts of the Forestry Commission and Clemson Extension, the City of Lexington received an award from the International Society of Arboriculture for an outstanding Arbor Day ceremony.

Project Learning Tree

Project Learning Tree is a forestry based interdisciplinary environmental education format developed by the Western Regional Environmental Education Council for the American Forestry Institute. Although the materials are free to educators, they are available only to those individuals who have been trained in their use. Presently Project Learning Tree has been introduced into 30 states. Over 30,000 people have received instruction in the materials.

Project Learning Tree began in South Carolina in February 1981. Approximately 1,000 teachers have received the training since that time.

Project Learning Tree is a cooperative effort of the State Department of Education and the Commission. Financial support is provided by Forest Industry.

Motion Pictures

Motion pictures are valuable aids in teaching conservation and films are often used to supplement talks. Each district office has motion picture equipment which is used for forestry motion picture showings in every county in the state.

This year these films were shown a total of 244 times to over 7,399 people.

Films on forest fire control, forest management, reforestation and other forestry subjects are shown to school and church groups, civic clubs, community organizations and others.

The Forestry Commission maintains a film library making available many forestry and conservation films. These are loaned free of charge to any group, school, or civic organization.

Vocational Agriculture Forestry Program

In 1930 forestry was added as a course of study in vocational agricultural classes in South Carolina. Each year the Agricultural Education staff of the State Department of Education and the State Commission of Forestry work together to teach vocational agriculture students the importance and techniques of forest conservation.

On school forest laboratories the students construct firebreaks to protect their laboratory from fire. They learn to plant trees, control weed trees, select, measure and estimate merchantable volumes in trees which are to be harvested. Timber in need of cutting is marked and cut by the students in many cases and is sold under contract as the students learn to market forest products. The laboratory is divided into a number of small plots to be worked one each year. One plot is left untreated to compare with plots where good forestry practices are carried out.

Foresters employed by the Forestry Commission throughout the state conducted 23 programs for vocational agriculture teachers and students. These programs were attended by 664 persons.

Resource-Use Education

Forestry Commission personnel participated in five teachers' workshops in environmental education during the year. These workshops were sponsored by Clemson University, Winthrop College, the Greenville School District, Lexington and Richland Soil & Water Conservation Districts, and the Land Resources Conservation Commission.

As a member of the Governor's Natural Resources Education Council created July 20, 1980, the Forestry Commission assisted in developing a "South Carolina State Plan for Natural Resources Education." Through the Council, comprised of state natural resource agencies concerned with education, efforts are being made throughout the state's school systems and public media generally "to enable the citizens of South Carolina to acquire the knowledge and appreciation needed to protect, enhance, and wisely manage the state's natural resources."

The Council is now developing a resource directory and presentations to outline the natural resource responsibilities of federal and state agencies; regional councils of governments; colleges and universities; private interest and citizens' groups in South Carolina.

Talks

State Commission of Forestry personnel give talks about forestry before many groups. The use of color slides with many of the talks helps make them more interesting and more effective.

During the year 213 talks were made by Commission personnel to 5,077 people. This does not include the talks made in connection with the 5th and 6th grade programs at schools throughout the state. Civic clubs, church groups, school groups, and other organizations were among those requesting talks.

Person-to-person talks with landowners and others continued to be one of the main ways Commission personnel pass along information on forestry to South Carolinians. Important points of contact between personnel of the Commission and the public are 140 fire towers where 1,616 persons visiting saw the work of detecting, reporting, dispatching, fighting and preventing fires explained or demonstrated.

Exhibits

Exhibits provide an excellent means of disseminating forestry information.

More than 1,550,240 people saw forestry exhibits and displays in fairs, parades, and special meetings as follows:

Exhibits, Floats and Displays for Special Events (Other than County or State Fairs)

	<i>Number</i>	<i>Estimated Attendance</i>
Camden	10	130,500
Florence	11	40,900
Kingstree	6	39,200
Newberry	14	77,715
Orangeburg	24	156,500
Spartanburg	12	88,000
Walterboro	14	<u>130,425</u>

Total Estimated Attendance —

Exhibits,

Floats and Displays for Special
Events

663,240

Exhibits at State and County Fairs

<i>County Fair</i>	<i>Type of Exhibit</i>	<i>Estimated Attendance</i>
Camden	Judge Smokey	3,000
Lancaster	Judge Smokey	10,000
Sumter	Wood Energy	30,000
Berkeley	Smokey's Commandments	11,500
Greenwood	Forest Services	46,000
Laurens	Commercial Woods	20,000
Newberry	Commercial Woods	15,000
Pickens	Familiar Woods	80,000
(Upper State District)		

Exhibits at State and County Fairs

<i>County Fair</i>	<i>Type of Exhibit</i>	<i>Estimated Attendance</i>
Spartanburg	Familiar Woods	65,000
(Piedmont Interstate)		
Union	Familiar Woods	25,000
York	Familiar Woods	20,000
Florence	Fair Exhibit	95,000
Loris	Fair Exhibit	6,000
Marion	Fair Exhibit	3,500
Hampton	Native Woods	5,000
Abbeville	Sweetgum Cross Section	2,000
Total Estimated Attendance County Fair Exhibits		437,000
State Fair (Columbia)	Forest Renewal	450,000
Total Estimated Attendance Fair Exhibits		887,000
TOTAL — Exhibits, Floats, Displays for Special Events		663,240
GRAND TOTAL		1,550,240

Radio and Television

Radio and television stations in South Carolina cooperate generously with the Forestry Commission by providing air time for many programs and announcements concerning forest fire prevention, forest management and other phases of forestry. Several districts have regularly scheduled radio and television programs.

Records show that at least 116 live or taped radio and TV programs on forestry were presented during the course of the year. This number does not include programs and spot announcements produced by the National and Southern Cooperative Forest Fire Prevention Campaigns, nor does it include spot announcements produced internally.

In-service videotape capabilities of the Forestry Commission produced three videotapes to be used in training:

THE SUPPRESSION UNIT: PREVENTIVE MAINTENANCE (23 minutes)

YOU NEVER TOLD ME and JUST A LITTLE PROBLEM — two six minute management training tapes

One videotape for general audiences:

MANAGING THE FOREST (10 minutes)

and one thirty second public service announcement:

ARBOR DAY, 1981 (distributed to 12 stations)

Training tapes produced are used as integral parts of the Commission's ongoing personnel training program and are available to other agencies and industries where the subject matter might be of assistance to them.

News Releases and Articles

Newspapers provided excellent coverage, placing forestry news and information before the people regularly.

During the year Commission personnel prepared 369 news articles. This is not a complete picture of the news coverage that the Commission received during the year. Many times, such as during the serious fire situation, news items are telephoned to individual papers and to the wire services. Many stories were written by newspaper editors and reporters.

In addition to news releases, a number of feature articles on forestry were prepared. Photographs or mats illustrating the story were often included with the feature. Commission personnel in every county of the state prepare news articles. In this way, news is localized.

Publications

The State Commission of Forestry utilizes a wide variety of publications to carry out its information and education program. One important function of printed materials is to provide detailed information to those who request forestry information.

Beginning with a spring (January-February-March) 1979 issue, the Commission publishes an intra-agency quarterly which is designed to keep all Commission employees and County Forestry Board Members abreast of personnel and general Commission activities.

Over the years the Commission has reprinted a number of booklets, folders, leaflets, and other materials.

The Commission also distributes materials published by the U. S. Department of Agriculture, Clemson University, various forest industry companies and associations, and other organizations, groups, and agencies which publish material that is useful and applicable in South Carolina. The use of such material minimizes the need for printing special publications in many cases.

Also, Commission personnel often prepare articles for forestry magazines and other types of periodicals. This gives forestry information widespread distribution at little or no cost to the Commission. In some cases reprints of published articles are purchased to provide for additional distribution.

Sign, Woodworking and Exhibit Shop

The Commission's sign, woodworking and exhibit shop produces signs, exhibits, and other cabinet and carpentry work. The distinctive routed letter signs identify the various installations of the Forestry Commission.

Exhibits constructed in the shop helped to bring forestry information to many people during the year.

